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THE CONDOR

A Magazine of Western
Ornithology

Volume XXXIV

May-June, 1932

Number 3



COOPER ORNITHOLOGICAL CLUB

THE CONDOR

A Magazine of Western Ornithology

Published Bi-monthly by the Cooper Ornithological Club

Entered as second-class matter May 15, 1925, at the post-office at Berkeley, California,

under Act of Congress of February 28, 1925, Section 412, paragraph 4.

Issued from the Office of THE CONDOR, Museum of Vertebrate Zoology, Berkeley, California.

SUBSCRIPTION RATES

Three Dollars per Year in the United States, payable in advance.

Fifty Cents the single copy.

Three Dollars and Twenty-five Cents per Year in all other countries in the International Postal Union.

COOPER ORNITHOLOGICAL CLUB

Dues are payable in advance on January first for the calendar year: Three Dollars per year for members residing in the United States; Three Dollars and Twenty-five Cents in all other countries. Members whose dues are paid receive THE CONDOR without additional charge.

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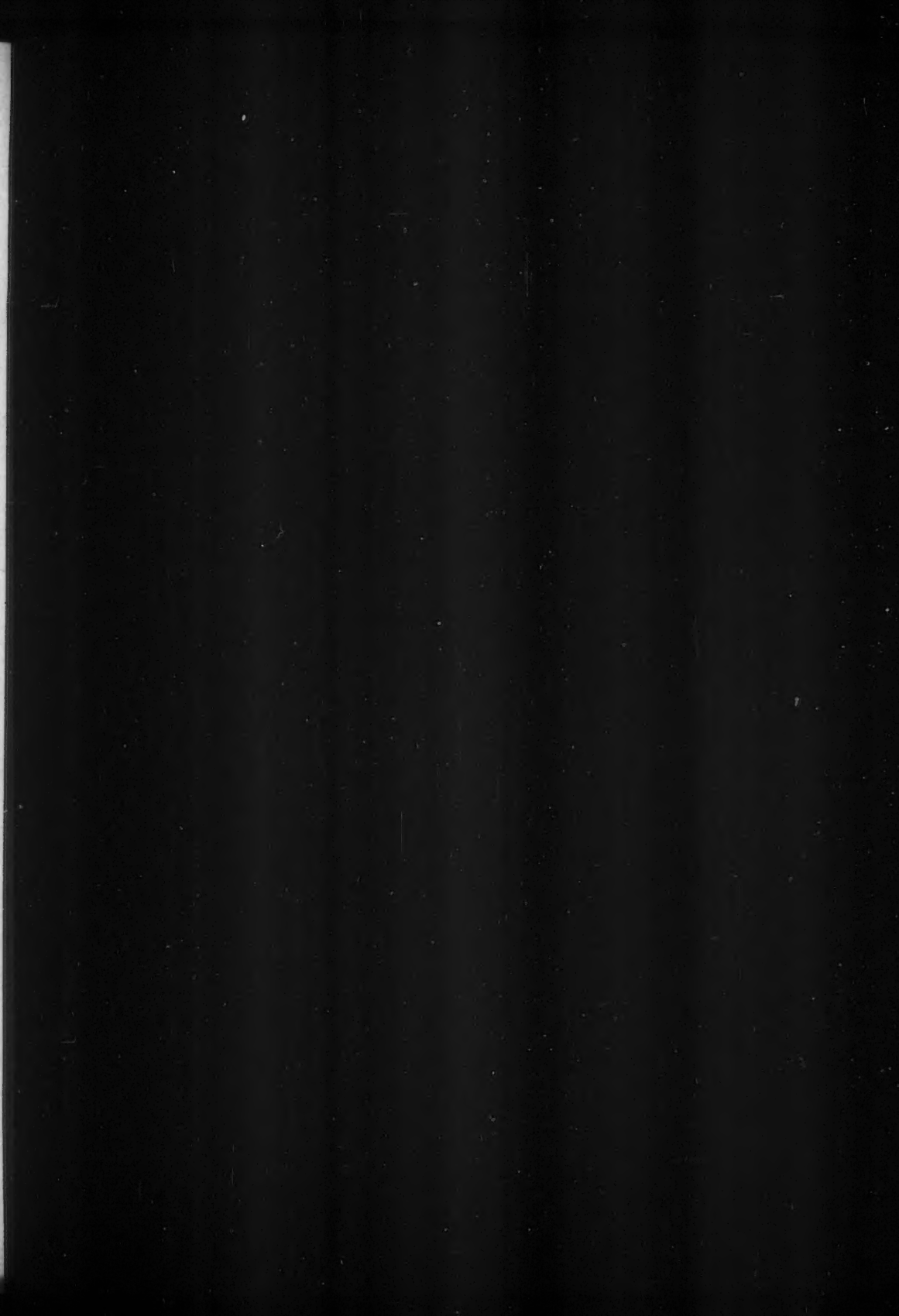
Send manuscripts for publication to the Editor, J. GRINNELL, Museum of Vertebrate Zoology, University of California, Berkeley, or to either of the Associate Editors, JEAN M. LINSDALE and ALDEN H. MILLER, same address.

Send dues and subscriptions to JOHN McE. ROBERTSON, Associate Business Manager, Buena Park, California; orders for back numbers of THE CONDOR and the PACIFIC COAST AVIFAUNA series to W. LEE CHAMBERS, Business Manager, 2068 Escarpa Drive, Eagle Rock, California.

Issued May 16, 1932

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A BI-MONTHLY MAGAZINE OF
WESTERN ORNITHOLOGY

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VOLUME XXXIV

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BREEDING RANGE OF THE YOLLA BOLLY FOX SPARROW

WITH FIVE ILLUSTRATIONS

By HAROLD W. CLARK

On June 2, 1931, while my daughter Melva and I were ascending the southwestern slopes of Snow Mountain in Lake County, California, we were most pleasantly startled by the clear, ringing song of the Yolla Bolly Fox Sparrow (*Passerella iliaca brevicauda*). As seen from its lower slopes, Snow Mountain appears to be a rather high peak rising abruptly from the low levels, with watersheds of the Eel River on the west and the Sacramento River on the east. Only when one reaches the 6000-foot line does he realize that the top is a broad plateau (see fig. 14) partly timbered with white fir (*Abies concolor*), red fir (*Abies magnifica*), and Jeffrey pine (*Pinus ponderosa jeffreyi*), and that the rather open formation of most of the forest allows an excellent development of snowbrush (*Ceanothus cordulatus*) and wild cherry (*Prunus emarginata*). In this habitat (fig. 15) the Yolla Bolly Fox Sparrow proved to be actively present all over the mountain top, except for those barren areas nearer to the summits of the two peaks, Snow West and Snow East. In all, however, there are somewhere in the neighborhood of eight square miles of territory that offer excellent breeding conditions for Fox Sparrows.

That this territory on the top of Snow Mountain marks the most southern breeding range of the Yolla Bolly Fox Sparrow seems evident. Mr. Joseph Mailliard (Proc. Calif. Acad. Sci., Fourth Series, ix, 1919, pp. 288 ff) speaks of locating breeding grounds of Fox Sparrows on Sanhedrin, which is slightly farther north than Snow Mountain, but not on Goat Mountain, which is the next peak south of Snow Mountain. The reasons for this appear to be clear, however, from our observations on Snow Mountain; for Goat Mountain is not high enough to develop a sufficiently large area of the characteristic fir and snowbrush in which the Fox Sparrow seems to prefer to nest. But the plateau on top of Snow Mountain furnishes almost ideal conditions for their life. It is quite plainly an island of the Canadian life-zone sufficiently extensive to allow fairly typical Canadian species to hold their own there.

In studying the relations between this Canadian island and the high ridges farther north in the vicinity of the Yolla Bollys, I made two trips across the range, one on June 11 from the vicinity of Covelo by way of Mendocino Pass to the region around Black Butte, the other on November 8 from Eureka to Red Bluff by way of the highway crossing the range just north of North Yolla Bolly Mountain. Observations



Fig. 14. LOWER EDGE OF PLATEAU ON SNOW MOUNTAIN. Off to the left the mountain drops away steeply into the yellow pine Transition and chaparral. In the picture, taken at 6,000 feet, Jeffrey pines mingle with young red firs, and several species of manzanita come up from below to meet the cherry and snowbrush of the Canadian life-zone. On the distant hill *Quercus vaccinifolia* grows in abundance. The locality here pictured was where we first heard the Fox Sparrow singing.



Fig. 15. SOLID STANDS OF SNOWBRUSH AT PLASKETT MEADOWS (6000 FEET). AT THE LOWER BORDER OF THE CANADIAN, ON THE EAST SIDE OF BLACK BUTTE, WERE DENSE STANDS OF THE SNOWBRUSH, AFFORDING EXCELLENT COVER FOR FOX SPARROWS.

made on these two trips enabled me to map accurately the extent of the Canadian life-zone in this region. The accompanying map shows the area above 5000 feet elevation, where Canadian zone conditions prevail. One would be inclined at first



Fig. 16. MEADOW COVERED WITH HELLEBORE NEAR BLACK BUTTE (6800 FEET); AT THE SUMMIT OF THE INNER COAST RANGE.



Fig. 17. NEST OF FOX SPARROW ON GROUND IN MEADOW, SHELTERED BY THE HELLEBORE.

to think that this area is simply a southward extension of the Canadian region from the Salmon-Trinity alps. My opinion, however, based on comparison of the bird life of the Yolla Bolly region and that of the Trinity region (Kellogg, Univ. Calif. Publ. Zool., 12, 1916, pp. 379 ff), is that the Yolla Bolly region is an isolated area with an

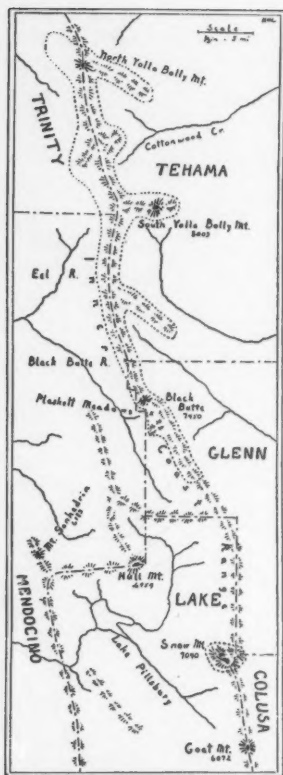


Fig. 18. MAP OF A PORTION OF NORTHERN CALIFORNIA, SHOWING THE SOUTHERN BREEDING RANGE OF THE YOLLA BOLLY FOX SPARROW. THE CANADIAN LIFE-ZONE AREA IN WHICH THIS BIRD WAS FOUND BREEDING IS INDICATED BY THE DOTTED LINES. NOTE THE ISOLATED AREA ON SNOW MOUNTAIN. Drawn by Harold W. Clark from observations taken in 1931.

avian fauna quite distinctly separated from that of the Trinity region. In its floristic features the Yolla Bolly-Inner Coast Range line of mountains possesses many features linking it with the humid coast belt more closely than with the Salmon-Trinity mountains. It would appear that careful studies of the bird life will show the same relationship. Further study will be necessary to fully develop this suggestion.

The west side of the range in this vicinity is swept by strong winds, and the fir forest does not develop until the summit is reached, at 5000 to 6000 feet, unless protected by other ridges near-by to the west. The flats on top of the ridge, the western slopes where protected by other ridges, and the eastern slopes down to 5000 feet are covered with fir forest interspersed with snowbrush, making satisfactory breeding ground for the Yolla Bolly Fox Sparrow. This breeding range and the range of the Canadian forest seem quite generally coterminous.

While camped at Black Butte, and at Plaskett Meadows close by, we found that some of the Fox Sparrows were just building their nests, others were incubating, and some were feeding young. One nest-full of young scattered the very day we observed them. Most of the nests found were in the snowbrush at elevations of from twelve to eighteen inches from the ground. One was located on the ground in the midst of a meadow full of hellebore (fig. 16). The female would alight on an old fence post about three feet from the nest, look around a while and then dive to the nest (fig. 17). It was this act that gave us the location of the nest in the first place.

The birds did not seem to be confined closely to the vicinity of the nests, either for singing or foraging. In the case of the full-grown young, the last day of their stay in the nest the parents were very busy gathering food, and at frequent intervals they came and went over a radius that included a bit of heavy fir timber at least a hundred feet away.

In the case of the nest in the meadow, the male seldom sang from the post near the nest nor from other posts near-by, but was more often heard to give his song from the tops of small firs or even trees as high as fifty feet at a distance of from one hundred to three hundred yards from the nest. When followed up too closely, he would fly across the meadow to another tree and give his song there. This habit of moving about from one singing station to another was quite characteristic of the male birds in this vicinity.

An interesting case of conflict between birds occupying nearly the same ecologic niche was observed at Black Butte. Here I found a number of individuals of the Green-tailed Towhee (*Oberholseria chlorura*), singing from the same places used by the Fox Sparrows. One morning there was quite a spirited battle between a Fox Sparrow and a towhee over the possession of a small red fir. After several sallies at the towhee, the sparrow finally allowed him to remain in the same tree, and the two sat close together in the upper twigs and sang alternately for some minutes.

Angwin, Napa County, California, February 5, 1932.

A NEW SPECIES OF CORMORANT FROM PLIOCENE DEPOSITS NEAR SANTA BARBARA, CALIFORNIA

WITH ONE ILLUSTRATION

By HILDEGARDE HOWARD

On December 17, 1931, Mr. David Banks Rogers, Curator of the Santa Barbara Museum of Natural History, brought to the writer a well preserved and thoroughly petrified coracoid of a cormorant. This bone was taken about fifty feet from the surface at the Veronica Springs Stone Quarry, near the town of Santa Barbara, California. This quarry is only about a mile from the Victoria Street sand pit in which fragmentary cormorant remains were found in 1930 (Howard, Condor, 33, 1931, pp. 30-31), and, according to Mr. Rogers, there can be no doubt but that it is a continuation of the same Pliocene horizon.

It was immediately evident, upon comparing the fossil coracoid with specimens of Recent *Phalacrocorax auritus*, *P. penicillatus* and *P. pelagicus*, that the bone is larger than in any one of these modern forms. Through the courtesy of Dr. Loye Miller and Dr. Alexander Wetmore the specimen was then compared with *Phalacrocorax femoralis* Miller from the Miocene (or Pliocene?) of Calabasas, and with Recent *P. carbo* and *P. perspicillatus*; and finally it was compared with figured specimens of Pleistocene *P. macropus* (Cope) and Oligocene, Pliocene and Pleistocene species from Europe. These comparisons failed to reveal any form with which the bone from Santa Barbara could be specifically identified, though its size and certain general characters at first suggest similarity with *P. perspicillatus*. Since the coracoids of the North American Oligocene forms, *P. marinavis* Shufeldt and *P. mediterraneus* Shufeldt, are unknown, there was no way to compare these forms. However, there is sufficient geologic time between these and the Santa Barbara bird to justify the assumption that the latter does not belong with either of these species. No coracoid of *P. idahensis* (Marsh) from the Pleistocene of Idaho could be compared, but Shufeldt (Journ. Acad. Nat. Sci. Phila., 9, 1884-1895, p. 401) quotes Cope as saying that it is similar in size to *P. macropus*, the coracoid of which form is considerably larger than the Santa Barbara specimen. There are, of course, several species of living cormorants which are not available for osteological study, but at least the two remaining North American species are smaller birds than that to which the coracoid in question must have belonged. Furthermore, of course, it is not probable that a Pliocene species would have held over into the Recent. The writer, therefore, feels justified in proposing that the coracoid from the Santa Barbara Pliocene be made the type specimen of a new species, that species to be named in honor of Mr. David Banks Rogers whose interest and coöperation have made possible the study of this form.

Phalacrocorax rogersi, new species

Type specimen.—A coracoid, number 32.1 in the paleornithological collections of the Santa Barbara Museum of Natural History, collected by Mr. D. B. Rogers, November 30, 1931, from the Pliocene of the Veronica Springs Stone Quarry, Santa Barbara County, California, at a depth of fifty feet from the surface of the deposit.

Description.—The bone agrees in size with specimens of *P. perspicillatus* though the shaft is heavier just below the procoracoid and the bone widens more gradually toward the sterno-coracoidal process; though slightly smaller than the specimen of *P. carbo* at hand, the fossil probably falls within the size range of this species as well; the latter, however, is much more slender of shaft in anteroposterior diameter. The fossil is larger than *P. auritus*, *P. penicillatus* or *P. pelagicus*, as well as the Miocene *P. femoralis*. On the other hand it is smaller than the Pleistocene form, *P. macropus*, and therefore judged to be smaller than *P. idahensis* as well. Measurements of *P.*

rogersi: Length from head to internal side of distal edge, 76.2 mm.; distance from head to procoracoid, 26.8 mm.; anteroposterior depth through head region, 14.8 mm.; least breadth of shaft below procoracoid, 6.2 mm.; distance of anterior intermuscular line from internal border of bone, 16.8 mm.

It is impossible to determine the exact course of the anterior intermuscular line, upon the character of which Lambrecht (Proc. VIIth International Ornith. Congress at Amsterdam, 1930, pp. 79-81) bases his generic separation of the European fossil cormorants. The erosion which the bone has undergone has almost obliterated the line, though with the aid of a lens it may be observed as a roughened area extending about 24.5 mm. up the shaft from the sternal facet. Whether this represents only a portion of the line, or its full extent, it is not possible to determine. However, regardless of its extent, the degree of curvature immediately above the sternal facet can be observed (fig. 19, b) and this is similar to *Phalacrocorax* rather than to any of the other genera into which Lambrecht has divided the fossil forms. The distance from the lowermost point of the intermuscular line to the internal border of the upper lip of the sternal facet is a character which varies considerably throughout the group, though judging from its similarity in *auritus* and *carbo*, as well as in *pelagicus* and *perspicillatus*, it may likely be a subgeneric character. Though the writer can find no mention of the subgeneric affiliations of *P. perspicillatus*, its position in various



Fig. 19. TYPE SPECIMEN OF *Phalacrocorax rogersi*; CORACOID NO. PAL. ORN. 32.1, COLL. SANTA BARBARA MUSEUM OF NATURAL HISTORY: a, external view; b, anterior view; c, internal view; d, posterior view. Natural size. Photographs by Mr. H. Wm. Menke.

lists, as well as its external characters, indicates relationship with *pelagicus*. With regard to this distance the fossil is closest to *pelagicus* and *perspicillatus*, but the position of the line above the sternal facet is not exactly duplicated by any species at hand. The following list indicates the ratio of the distance of the intermuscular line from the internal border of the sternal facet relative to the length of the coracoid measured from the head to the internal side of the distal edge of the bone, in certain Recent and fossil forms.

<i>Oligocorax</i> * <i>littoralis</i> (Milne-Edwards) ¹	Oligocene	30%
<i>Oligocorax</i> * <i>mioceanus</i> (Milne-Edwards) ¹	Oligocene	27%
<i>Paracorax</i> * <i>de stefanii</i> (Regalia) ²	Upper Pliocene	23%
<i>Phalacrocorax rogersi</i> n. sp.	Upper Pliocene	22%
<i>Phalacrocorax perspicillatus</i> ³	Recent	22%
<i>Phalacrocorax pelagicus</i> ³	Recent	22%
<i>Phalacrocorax penicillatus</i> ³	Recent	18-20%
<i>Phalacrocorax</i> sp. (Wildhalm) ²	Pliocene	18%
<i>Phalacrocorax macropus</i> (Cope) ⁴	Pleistocene	16%
<i>Phalacrocorax carbo</i> ³	Recent	15%
<i>Phalacrocorax auritus</i> ³	Recent	14-15%

*Formerly *Phalacrocorax*; separated therefrom on the basis of the character of the intermuscular line (Lambrecht, loc. cit.).

¹Measured from illustrations in Milne-Edwards (*op. cit.*, pl. 43, fig. 5, and pl. 41, fig. 1).

²Measured from illustrations in Lambrecht (*op. cit.*, p. 81, figs. 3 and 4).

³Measured from Recent specimens.

⁴Measured from illustration in Shufeldt (*op. cit.*, pl. 15, fig. 6).

The region internal to the intermuscular line is slightly depressed or flattened for a greater distance up the shaft of the bone than in any of the modern forms examined, though this condition is approximated in one of the specimens of *perspicillatus* at hand. On the external side the bone slopes steeply outward away from the line in a manner similar to *perspicillatus*.

The anteroexternal portion of the head is thickened; in this character, together with the very slightly depressed neck region, the fossil is closest to *pelagicus*. (See fig. 19, a.)

The internal side of the head above the brachial tuberosity is smoothly rounded as in *pelagicus*, but the brachial tuberosity does not overhang, nor is the area below it depressed (fig. 19, c). In these respects the fossil differs from *pelagicus*; nor is it identical with any of the Recent species, though it perhaps most closely resembles *carbo*; however, even in *carbo* the brachial tuberosity is slightly overhanging, and furthermore, the contour of the head (seen in internal view) is more pointed in *carbo*, so that the resemblance is not marked.

In the region of the procoracoid (see fig. 19, c and d), the fossil is farthest from *penicillatus* and *carbo* and closest to *pelagicus*, though the internal crest appears to have been more prominent than in this latter form. Unfortunately, the bone is slightly broken in this region so that its exact nature cannot be ascertained. It is clear, however, that the body of the bone on the posterior side adjacent to the procoracoid is smoothly convex and is not depressed or flattened as in *penicillatus*, *carbo*, *auritus*, and to a lesser extent *perspicillatus*, and it is even more smoothly rounded than in *pelagicus*.

In view of the presence of this extinct species of cormorant in the Pliocene of Santa Barbara County, the writer would like to withdraw her tentative identification of *Phalacrocorax penicillatus* in the similar deposits at the foot of Victoria Street, based upon a young and partially broken tarsometatarsus. At the time that the tentative identification was made, it was stated (Howard, *op. cit.*, p. 31) that "in anterior aspect the internal border of the shaft appears to project forward more prominently than in the modern species," but that as the bone was broken at this critical point it was impossible to be sure of the accuracy of this observation. The writer feels now that, with the presence of an extinct species established, this apparent difference in the internal border of the shaft of the tarsometatarsus should be considered more seriously. It is, of course, impossible to ascertain whether or not this bone is of the same species as the coracoid described in this paper; it is therefore suggested that the tarsometatarsus be designated simply as *Phalacrocorax* sp.

Los Angeles Museum, Los Angeles, California, January 28, 1932.

FURTHER FACTS CONCERNING LOSSES TO WILD ANIMAL LIFE
THROUGH PEST CONTROL IN CALIFORNIA

By JEAN M. LINSDALE

One of the reasons that more care has not been used in conducting pest control campaigns in the past may be that the officials were not informed as to the nature and extent of the losses incurred by wild life other than the pests they were trying to destroy. If this be true then there is need for recording as much as possible of the known losses to wild life through pest control. The accounts here presented, if they fail adequately to indicate the losses to animal life, at least show the nature of those losses in a great many kinds of circumstances.

For the person who may be of the opinion that organizations for the study of birds should have no interest in the killing of mammals it is well to point out that some of the factors which have already so upset our mammal fauna are being rapidly developed to "regulate" bird life. The accelerated development of pest control methods and a tolerance for practice of them could so change our native bird life within a few seasons that all previous activities for preservation of it would be nullified.

When permanent policies for treatment of wild birds and mammals which show relations to agriculture are adopted, they must be satisfactory for the welfare of a majority of citizens and they will result from studies of many phases of animal and human activity. In these inquiries one of the most important questions to be answered is whether animals other than those considered as pests are actually killed during the pest control campaigns. This involves determination of the kinds and numbers of the animals affected. Because only a small proportion of dead wild animals ever are found by people, a fact which is evident to all persons who have had field experience in natural history, negative evidence is of small value in arriving at sound conclusions as to the total number killed. The most dependable tests, then, for conclusions regarding this question are the positive findings of dead animals. Evidence of this sort given in the first of this series of reports (Condor, XXXIII, 1931, pp. 95-102) pertained to the results of placing poisons for squirrels in those areas where thallium has been the most important lethal agent in recent campaigns.

Some naturalists have inferred that thallium poisoning of wild life is much more extensive than poisoning due to other substances. Actually the losses to animals may be dependent upon the amount of baits distributed and the manner of placing them, and other substances are capable of causing tremendous losses also. As has been pointed out by me (Condor, XXXIII, 1931, p. 103) the animals now being killed in California incidental to rodent control, lose their lives directly and *indirectly* through the use of thallium. The chief reason for using thallium is that it makes better kills than other types of poison, but under certain circumstances strychnine, too, is effective. The opinions of officials upon this question are summarized in the following statement of one of them recently printed (State of California, Department of Agriculture, Special Publication No. 109, 1931, p. 7).

"With the development of thallium as a supplementary material to use at seasons and in areas where strychnine is ineffective, an adequate ground squirrel control program was possible for the first time. On certain areas treated repeatedly with strychnine preparations squirrels could only be held in check—not appreciably reduced. Consequently it was necessary to expose lethal materials in nearly the same amounts annually—a process which so far as could be foreseen, would be endless."

The successful (upon basis of large kill) use of squirrel poison, then, involves the use of both poisons, as well as others, but so distributed as more thoroughly to cover the ground than ever before. Strangely, this very circumstance, which makes

the losses to wild animals so extensive in squirrel killing, has been developed and dwelt upon to justify continuance of the campaigns.

In the reports here placed on record are observations which concern many parts of the state and many types of attempted pest control. Each paragraph summarizes the important facts obtained from a signed statement of the first-hand observations of one person. That the summaries do not reflect the feelings of the observers toward the practices of pest control is shown by comparison of the summaries with the known opinions of a majority of the persons. In other words many of these observers have written that they are strongly in favor of poisoning campaigns, but they have not allowed this circumstance to prejudice reports of their findings. I have faith in the truthfulness of every one of the observers here quoted. Special care has been used to discard any statement which showed any indication of an influence of rumor. Where available the following important items are included in each paragraph: Number and kinds of animals found dead; time and place of finding them; agencies distributing the poison or traps; miscellaneous comments on the type of poison used or general effects of the campaigns.

Summaries of reports of 285 observers on birds or animals other than squirrels and coyotes which were unquestionably killed during pest control campaigns:

On one of my field trips in 1927, I found eight dead skunks in a radius of one-half mile; also two or three pellets of poison. It has been my observation that skunks are by far the most liable of any of our fur bearing animals to take this poison. I have known of dogs being poisoned as long as one year after the poison was put out. At Ramsey, Mendocino County, in 1927, I shot a crow which was carrying a pellet and I was told by a rancher there that the nearest poison put out was three or four miles away. Crows are very numerous here throughout the year and if it is a fact that they carry the poison in any quantity the value of this means of pest control is questionable.

Skunk, coon, fox, dog; kept no record of date or number; between Deer Creek and Mill Creek in Tehama County; government poison.

Skunk, coon, gray fox, deer, dog; on Cone and Ward sheep range in Tehama County; state and county poisoners.

Five skunks, 3 gray foxes; 1927; in northern Tehama County.

Two skunks, 1 coon; about 1927; near Nevada City, Nevada County; two months after government poisoner had been there.

One skunk, 1 coon; March, 1928; Eldorado County; U. S. Biol. Surv. poison.

Five dogs; July 7 and 12, 1928, May 2 and July 10, 1929; Deep Creek and Boat Lake, Modoc County; U. S. Biol. Surv., strychnine.

Uncounted cottontail rabbits and quail, 4 dogs; November and December, 1927 and 1928; near Chico, Butte County; by state trapper and ranchers; strychnine in meat, fruit and grain.

One skunk; September, 1929; 1 coon; July, 1929; Dos Rios, Mendocino County; strychnine.

Skunks, gray foxes, gray squirrel, quail, dogs; in winter on G. Ward's sheep range.

Many skunks and gray foxes; about 1925, within a radius of fifteen miles around Auckland, Tulare County; coyote poison.

Skunk, coon, bear; Glenn and Tehama counties.

Quail; Mariposa County; agriculture department.

Quail, coon, skunks; central and southern Humboldt County.

Great many skunks, coon, ring-tailed cats, gray foxes; 1918-1919 and other years; Singer Creek, Deer Creek, and Mill Creek, Tehama County, strychnine.

Approximately 20 to 25 pigeons, rabbits and small birds; late fall and winter, 1928 and 1929; near Fillmore and Piru, Ventura County; strychnine.

Varying number of rabbits and quail; each year for last twenty years in Black Mountain region; strychnine.

Twenty grouse, 35 or 40 quail, 3 foxes, 7 coons, 30 skunks; 1928; near Black Butte and Anthony Ridge, Mendocino County. I helped my brother. He was employed by state and county in poisoning predatory animals. Used strychnine in tallow baits,

also in liver, and poisoned barley. I can't see how any one could avoid poisoning fur-bearers and even stock. I have seen several cattle poisoned and a number of hogs.

About 10 skunks, 3 foxes, 2 deer; in summer and fall, 1928; Mt. Pinoche country, Mariposa County; tallow baits used in private poisoning campaign by Messrs. Best and O'Connor.

Doves, meadowlarks; during last ten years; Alameda and Contra Costa counties; by rodent exterminators.

Skunks, gray foxes, coon, ring-tailed cats, birds (innumerable); in last three or four years; Tehama, Butte and Glenn counties.

Found four tame pigeons; killed, May 28, 1930; on own ranch; strychnine. Quail have always been plentiful until last two years, but seem to have disappeared. There has been practically no shooting in this locality and this section is ideal for quail with plenty of water and little farming. Mt. Ranch, Calaveras County.

I poisoned for four months and killed skunks, coon, civet cats, chipmunks, gray squirrels, rats, mice, jays, crows, one eagle, and quail. Found deer that looked like they had eaten those tallow baits and died from them. They shall never put another bait on my place as it only does harm. I have one thousand sheep and 2500 acres of land.

I have had two calves poisoned of my own. Have found three carcasses of fawns and one young buck, numerous owls, hawks and various birds. My neighbor has had two dogs poisoned, one of which recovered but the other died and died very painfully. The number of carcasses of birds found along the trails and by the water tanks shows, at least to me, that there was something besides the natural sicknesses which caused the death of the birds. Magpies were found dead. In San Luis Obispo County.

Skunks, coon, gray foxes, doves, quail (could safely say hundreds); Charles Mt., South Nealen, Goat Peak and many other places; government poisoning and ranchers; strychnine and cyanide.

Fifteen or 20 quail; in December, 1930; and ring-tailed cats, skunks, coon and gray foxes; in 1925; Sutter Buttes, Sutter County; poisoned barley put out for squirrels.

Doves, meadowlarks, sage hens, jays; in spring squirrel poisoning and fall coyote poisoning; near Canby, Modoc County; both farmers and state poisoners.

As many as 10 skunks at one station, foxes, coon, buzzards; northern Mendocino County; agencies responsible, U. S. Biol. Surv. and County Supervisors. The campaigns reduce the coyotes all right but should be conducted more carefully.

Three dogs; about October 20, 1930; Board Ridge and Poison Glade, Tehama County.

Approximately 17 skunks, coon, quail; December, 1926, November, 1927, September, 1928; Beegum district, Tehama County; U. S. Government poisoners.

Seven gray foxes, 10 wildcats, 4 dogs; within last four years. The present poisoners in the southwest part of Tehama County (1930) are not careful to post the poison notices as they should be and make most of the stations along the public roads where the stockmen and hunters are compelled to travel and there is nothing to indicate where the poison is placed. The poisoners say that the people can keep their dogs muzzled but muzzled dogs are about as useless as a prizefighter with his hands tied behind his back. The fear of poison prevents the men who have trained dogs for mountain lions from using their dogs for this purpose and the consequences are that lions are becoming more plentiful to menace deer and other stock. I believe that the lions and coyotes destroy more deer during the winter and spring months than the hunters during the open season. The present way of handling the poisoning method is the cause of many range owners prohibiting the use of poison on their ranges, while they are still in favor of the poisoning method for the destruction of coyotes. We are as anxious as any one can be to exterminate the coyotes but at the same time are satisfied that it can be done without antagonizing so many hundreds of people by neglect of precautionary measures.

Ten magpies; about December 1, 1929; near Eagleville, Modoc County.

Skunks, coon; southern Humboldt County; sheep men and government hunters.

Twelve skunks, 5 coons, 7 hogs, 7 dogs; winters 1926 to 1930; Buck Mountain and vicinity, Humboldt County; strychnine.

Three skunks, 2 gray foxes; 1925 and 1926; about three miles southeast of Mantion, Tehama County.

At least 25 in all of quail, flickers, meadowlarks, white-crowned sparrows, towhees;

March, 1928; Middle Ranch on Catalina Island; the Wrigley Company; barley and strychnine (?).

Nine skunks and 6 coons (in one place), ring-tailed cats, wild cats, bear; during hunting season, 1928 and 1929; on Bair's Ranch, Redwood Creek, Humboldt County; ranch foreman distributed 3500 tallow baits in one week.

One skunk, 1 badger, dozens of magpies; winters of 1927 and 1928; Hot Spring Valley near Canby, Modoc County; poison in horse tallow and meat.

Very few skunks; during past year (1930); Little Van Duzen River, Humboldt County; government coyote hunters; all possible care is taken in distributing poison.

A few skunks; in northern Humboldt County; government poison, strychnine.

Quail, 50 skunks, 10 gray foxes; December, 1924; on Deer Creek near Vina, Tehama County; poison put out for squirrels and coyotes.

Grouse (as many as 9), bear, deer, wildcats, skunks (by the score), coon (by the score); in summers of 1928 and 1929; on Hooker ranch and Bair ranch, Humboldt County; government poisoner and rancher; strychnine; I have worked in the hills for years. I have also put out poison while at my work and know it killed the deer and other animals.

Skunks (hard to give exact number), 3 coons, 2 dogs, 3 hogs, 1 gray fox; summers of 1922 and 1923; Mendocino County; a lot of the poison was put along main traveled trails and not properly taken care of.

Perhaps a dozen cottontail rabbits; over a period of years; San Diego and San Benito counties; individual farmers; thallium and strychnine; I heartily endorse such campaigns.

Two dogs; in 1925; San Ardo country in Monterey County; the county in cooperation with the state.

About 10 or 12 doves and jays, 4 skunks, 4 or 5 dogs; 1927 and 1928; Los Gatos Creek, Fresno County; myself and County Agricultural Commissioner; strychnine; county squirrel poison and government coyote poison.

Quail, turkey buzzards, hawks, dogs, coon, skunks; fall and winter of 1928; on Redwood Creek; government poison, strychnine; the poison was laid along side of the trails where people had to travel, and deer were shot and loaded with poison for bait.

Three or 4 linnets, 2 or 3 sparrows, 4 or 5 dogs; in 1928 and 1929; Broderick, Yolo County and Tehama County; strychnine.

Perhaps 18 skunks and coon; fall of 1920; at Garberville, Humboldt County; 1925, at east end of Jackson Valley, Mendocino County; coyote destroyer; latter in traps.

About 15 skunks and gray foxes and a few coons; from 1924 to 1930, in Pope Valley, Napa County; poison scattered by both farmers and government trappers; strychnine. Foxes have decreased but skunks and wildcats seem to have increased, coons about the same. The deer have increased a great deal too, without the coyote.

Quite a few quail; summer of 1928; about ten miles west of Redlands, San Bernardino County; rancher put out poisoned wheat for squirrels and used very little judgment in so doing, and killed many quail.

Eagles, jays, foxes, skunks; over period of last ten years; Pine Valley, Rattlesnake Valley and Cuyamaca Grant; poisoning cattle dead on range and stock killed by mountain lions; strychnine.

About 20 skunks; 1924; two miles northeast of Santa Rosa, Sonoma County; private parties; strychnine for rabbits.

Four skunks 8 coon; December 10, 1929; Trinity County; strychnine.

Occasional dogs pick up bait; Truckee district and around Nevada County; regular bait with strychnine. Private parties in Nevada County, scattering poisoned grain, as barley, for squirrels, often do not take the pains necessary to put the grains where the squirrels will get them, but scatter them broadcast, and rabbits, gray squirrels and occasional birds pick the grain.

Larks, 2 quail, 3 brush rabbits; over a period of three months; near Santa Ana, Orange County; strychnine and arsenic. Most ranchers around here use grain (barley, oats, wheat) soaked in strychnine or arsenic. Before the poison is put out rabbits and quail are plentiful. Ten days after, very few are seen. They scatter the poisoned grain over the ground mostly for squirrels and rabbits.

One hunting dog belonging to a man in Vallejo; on Chappel Creek near Monticello on Putah Creek; poison put out by private land owner. Dog died within five

minutes. The signs were posted on a road, but we were back on the ridge about four miles. It was not posted there. All ground should have been posted.

Seven doves; spring months eight or nine years ago; sixteen miles north of Los Angeles, on Ventura Boulevard; ranchers; wheat grains, unknown poison.

Three skunks, 1 coon, and 3 or 4 other animals; about June 28, 1930; on Burnt ranch; not sure who distributed poison, think U. S. Biol. Surv. Saw a few dead ring-tailed cats that I believe were killed by squirrel poison.

One-half dozen or more roadrunners; June 1 to October; Palo Verde Valley.

Quite a few jays; October 16, 1930; Alameda County; strychnine put out by county.

Several skunks, 3 coon, several gray foxes, hawks, magpies, crows, robins, at different times in winter of 1929, Tehama County; think strychnine. Campaigns of great value but could be bettered with less harm to the fur animals and others if properly handled.

Quail, doves, skunks (not counted); July and August, 1923 to 1925; foothills in Fresno and other counties; poisoned barley put out mostly by stock ranchers along foothills.

Numerous magpies, vicinity of Fruto, Glenn County; 3 skunks, vicinity of Paskenta, Tehama County; late fall of 1927; probably U. S. Biol. Surv.

Fourteen skunks, 3 coon, 1 ring-tailed cat, 3 dogs; 1927 and 1928; in Bald Hills, Humboldt County, vicinity of Coyote Rock, Pine Creek, and divide between Klamath and Bluff Creek; U. S. Biol. Surv. If the actual value of fur lost due to poisoning could be realized other methods would be used, eliminating this waste.

Three or 4 skunks, 1 gray fox; 1925; Squaw Valley, Fresno County; county and state. Campaigns very effective if properly handled.

Very few skunks, crows, hawks; around the Harris vicinity, Humboldt County. The only objection I have is the fear it gives me of poisoning my valuable stock dog. There is a great increase in deer and quail due to this campaign.

About 200 skunks, coons, dogs; between November 1, 1929, and February 1, 1930; Shasta and Tehama counties; government men and sheep men; strychnine.

Approximately 150 quail; at different times during the year, 1929; in the gardens of Sausalito, Marin County; several kinds of snail poison. Private parties put the poison out to kill snails and slugs. The matter was brought to my notice and I went to the dealers and had them warn the purchasers to cover the poison so quail could not get at it. We had notices put in local papers to that effect and when poison is put out now, it is screened so that quail can not get at it. I have had no complaint this year as yet, and there are more quail than ever. All poisoning should be stopped as it is usually done by inexperienced persons, who are not able to get the animals intended, but get valuable ones.

Many skunks, coons, hogs, 6 dogs; 1927, 1928 and 1929; Nashmead and Iron Mountain district, Mendocino County; government poison.

Hundreds of gray foxes, wildcats, bears; July, 1920, to October, 1927; in Hazel Creek district, Shasta County.

Four or 5 skunks, 4 or 5 coon; Mad River ridge, Humboldt County; strychnine.

Between 25 and 75 skunks, 1 coon, 4 dogs (own); spring 1927 or 1928 and fall of 1929; around Caution, Trinity County; U. S. Biol. Surv.; strychnine. As to killing of skunks, I believe that good riddance.

Total of about 20 doves, gray foxes, cats, skunks; 1917 and subsequently; Tehama and Glenn counties; strychnine. I believe the work should be kept up.

Lots of yellow-billed magpies, California jays, gray fox, fisher, skunks (15 and 20 in close proximity to poison station); October, 1929; in western part of Tehama County on Log Spring ridge. I have seen poison baits more than a mile from the poison station, carried by birds.

Many skunks, gray foxes, 13 hogs; Cottonwood district, Tulare County; government poison.

Quite a number in all of skunks, coons, gray foxes, dogs; 2 or 3 years ago (1930); Payne Creek, Tehama County; government poison; coyote poisoning is a detriment.

Three gray foxes, 1921 or 1922; Three Rivers, Tulare County.

Four or 5 foxes; November 20, 1929; Oregon City, Butte County.

Two skunks, 1 large hawk; about July, 1928; Mad River drainage in Humboldt County. The skunks were found within twelve feet of part of a deer carcass, the flesh of which had been slashed and poison, probably strychnine, inserted. Authority re-

sponsible, Biological Survey. This matter was taken up at the time with the Biological Survey by the Forest Service with the apparent result that this form of poisoning stopped in the locality described. I myself, in 1925 I believe, distributed 350 pork baits and took up those remaining two days later. The only dead animals found, other than coyotes, were mice and rats.

Magpies, jays, dogs, 2 hogs, 4 coon, 7 skunks; near Grimes, Colusa County; U. S. Biol. Surv.

One coon; about 1927; three miles below Markleeville, Alpine County; on the Carson.

Quail, cottontail rabbits, fox, coon, skunk; in last three years; near Plymouth, Amador County; U. S. Biol. Surv.; poison and traps.

Have reliable information that strychnine poisoning conducted in Antelope Valley, Los Angeles County, killed 20 to 25 rabbits, 30 blackbirds, and 3 doves, in April, 1929. Both strychnine and thallium used. Poisoning is good.

Many quail; 1920 to 1925. Ettersburg, Humboldt County; poisoned wheat put out by private individual. I picked up the poisoned ones and used them for trap bait for coon. They were killed by the dozens and laid all over the lower apple orchard (about 12 acres).

Many quail, 1 coon, 6 or 8 skunks; Shasta County; poisoned barley put out by farmers' organization.

Skunks; Honeydew, Humboldt County; strychnine. I think it is the best thing for the game that ever came in.

About 6 or 7 skunks and coon; in 1927; Cone range, Tehama County; poison put out by state and county.

Magpies, buzzards, porcupines, wildcats, skunks; whenever poison is put out; Lassen County; strychnine in fats put out by government trappers. Did not count them as was glad to see them dead.

Two stock dogs; spring of 1926; Round Valley, Mendocino County; I wouldn't have taken \$1000 for them. Campaigns very good but not extensive enough.

Quail, sage hens (not counted); fall and winter of 1928-29, 1929-30; low hills and flats near and around my place in Modoc County.

Skunks, 5 at one station, 3 more one-half mile away; near Blocksburg, Humboldt County; poison put out by a ranch foreman.

Several skunks; in 1924 and 1925, in Mendocino County; 2 skunks, 1 coon, 3 gray foxes; in 1927; in Sonoma County; coyote poison. Skunks were seen in Hull's Valley, Mendocino County, that had been poisoned by eating poisoned squirrels.

Four skunks, 7 coon, 3 bear, 2 fisher, fox, ring-tailed cat (found in one place); in January, 1929; on Sheet Iron Mountain, Shasta County; U. S. Biol. Surv., government baits.

Hawks, buzzards, skunks; several in Mendocino and Lake counties, stockmen and county trapper.

Eighty-three skunks, 5 gray foxes, 2 bears, 1 wildcat; November and December, 1926, January and February, 1927; Tehama and Shasta counties; U. S. Biol. Surv.

Eleven skunks, 3 coons, 4 foxes, 1 hog (own, near Nashmead, Mendocino County); November, 1928; about nine miles east of Santa Rosa, Sonoma County; poison in tallow pills. I have seen a few dead skunks that had eaten dead squirrels, but not many.

Skunks, coons; near Ettersburg, Humboldt County.

Twenty valley quail; May 14, 1930; at H. Dickerson ranch, $4\frac{1}{2}$ miles south of Fort Bidwell, Modoc County. I opened crops of several birds and all were full of poisoned oats. This poison was put out for squirrels. Badger, 2, October 14, 1930, at Lake Annie. One at 8-mile near where trapper had poison. Skunk, 1, about October 1, 1930, at Lake Annie. This skunk was claimed and scalped by a government trapper. One, about September 18, 1930, at Tamarack Flat in traps of government trapper. Nineteen, at North Flat about two miles north of Bidwell. I believe pest control should be carried on but also think those doing it should use judgment with both poison and traps. I have tried at all times to keep posted on conditions connected with game conservation and these reports are the result of my investigation. There is no question about the squirrel poisoning campaigns. They are valuable but judgment should be used in putting out poison. I believe in predatory animal control but believe care should be used with the poison and traps. Deer will eat the tallow baits used by the government trappers. I have proved this with unpoisoned baits.

Nine skunks, 3 coon, 1 dog (own); about 1924 or 1925; on J. S. Potter ranch in Mendocino and Trinity counties.

Several turkeys killed in 1929 by poisoned barley put out to eradicate squirrels.

Three skunks, 1 gray fox; November, 1928, to February, 1929; near Red Bluff, Tehama County; strychnine put out by government men.

Five skunks, 3 foxes; 1928; in summer; Canadian Valley, Calaveras County; in traps of government trapper hired by county supervisors. Campaigns do more harm than good.

Thirty-four skunks, 6 coon; 1928 and 1929; Bend, Tehama County; poisoned tallow.

Numerous magpies, a few buzzards, 2 skunks; last two years; around Clements, San Joaquin County, and Ione, Amador County; predatory animal trappers.

About 10 magpies and crows; April, 1925; Bridgehouse, Sacramento County; distributed own poison.

Twenty crows, 50 buzzards, 4 coons, 50 skunks; between 1926 and 1930; Honeydew and coast country, all classed as the Mattole district, Humboldt County; government trappers and a lot of farmers and ranchers.

Doves (just one here and there); Perris Valley, Riverside County; poisoned grain.

Nine skunks, 5 coons, 2 ring-tailed cats, 3 deer; summer and fall of 1926 and 1927, in Del Norte County.

Nine skunks; 1927; on Sacramento River, Tehama County; poisoned meat.

Skunks, deer, coon, foxes; on Cone and Ward sheep range, Tehama County; government poisoners.

Quail, fox, skunk (a number of each); several years ago; ten to fifteen miles south of Trinity Center, Trinity County.

Doves and cottontail rabbits (not many); about August, 1930; close to corrals of ranch near Friant, Fresno County; strychnine distributed by county and myself; what few were killed did not matter.

Robins, doves, quail; 12 or 15 years ago; ranch above Volcano, Amador County. Cats and dogs were killed from eating dead squirrels. We put out the poisoned grain for squirrels as directed by our supervisor.

Six or 7 skunks; September and October, 1926; one-half to one mile south of Clio, Plumas County; thought to be strychnine put out by sheepmen or herders.

Doves, quail, rabbits, tree squirrels; some every year for several years; near Mist, Madera County.

Large numbers of quail, as many as 6 doves in one day, quite a few foxes and skunks, wildcats; July and August, 1930; near Mist, Madera County.

Jays, skunks; in one trip in Humboldt County, I saw 8 coyotes and 5 skunks, killed by poison in three days in October, 1929, between Pilot Creek and Mad River, Humboldt County; strychnine. I think it is impossible to poison without killing other animals than coyotes but believe there are enough coyotes killed to more than offset the difference.

A few skunks and coon; December, 1926, and January, 1927; on ranch near Kneeland, Humboldt County; poison put out by owner, issued by government. Too much poison used.

Hawks, owls, buzzards, skunks, coons, wildcats, rabbits, house cats, dogs, over a period of fifty years; Gordon Valley, Napa County; mostly strychnine; U. S. Government and counties.

Pheasants, skunks, opossums; western Stanislaus and southern Mariposa counties; poisoned barley and carbon bisulphide put out by farmers and county officials. I think they should be carried on to their greatest extent.

One skunk; 1928; near You Bet; government poison put out by government trapper and sheepman.

Between 12 and 15 skunks, a great many stock dogs, house cats, hogs; from beginning of poisoning to fall of 1930; Iron Peak or between Nashmead and Laytonville, Mendocino County; poison on grain and beef and tallow pills. Ground squirrels make best baits to trap skunks; I have not been able to catch any skunk within a quarter of a mile of where poison has been put out, and for years after.

Two skunks; 1928 and 1929; on Cone and Ward winter range along Lassen trail, Tehama County.

Fifteen skunks, 2 bears, 8 coons, 6 bobcats; summer of 1930; Indian Field's ridge and Diamond Prairies. I think the loss could be avoided with proper care—not dis-

tributing poison with salmon or pieces of meat scattered all along the trails. I had a very good varmint dog poisoned about two years ago.

Nine skunks, 3 civet cats, 4 wildcats; winter, 1929; near Millville, Shasta County. This poison was put out by sheepmen. The poison was put out and never looked at.

Two or 3 skunks; near Fourth Crossing, Calaveras County; U. S. Biol. Surv.

Several skunks; when government first started campaign in Humboldt County.

Doves, larks, magpies, jays, and rabbits; found on own ranch in San Benito County; killed by state and county squirrel control. I believe that squirrel control campaigns are the proper thing.

Four skunks; October, 1924; near Bear River, Placer County; government trapper.

Doves, larks, eagles, hawks; quite a few during the past ten years; west of Alturas, Modoc County; grain and capsules.

Doves, badger, 4 coons, 3 dogs; fall and winter, 1929 and 1930; Belfast, Willow Creek district, Honey Lake, Lassen County; strychnine put out by government trappers. Baits placed for coyotes are carried off by such birds as magpies, ravens and crows. They conceal the baits in the bark of trees and other places. Because of these birds I have lost good hounds, poisoned one-half mile from any placed baits.

About 20 doves; June 15, 1929; Reliz Cañon, Monterey County. We poison squirrels on our own account with strychnine on barley.

Nine skunks, 1 bear; fall of 1925; Gravey Valley, Lake County; U. S. Biol. Surv., strychnine.

Skunks, not over 6 or 8; T. 27 N. R. 8 W.; private and government poisoners. Last winter I and my son-in-law picked up 13 coyotes, 1 eagle, 3 skunks and nothing else on our two ranges. We did our own poisoning, with the government mixture.

Quail, skunks, foxes, coons (about 100 in all); 1928; near Smartville, Yuba County; U. S. Biol. Surv.

Two to 5 skunks and gray foxes per year; 1920 to 1928; 8 to 15 miles north and northwest of Auburn, Placer County; county authorities and sometimes farmers.

Not many quail, many of each of flickers, magpies, foxes, bears, skunks, and coons; September 25, 1927 to April, 1928, and November, 1928 to February 1, 1929; all parts of Tehama County; government trapper. Campaigns are fine if handled right. I worked two winters on the poison work and made a study of it. The most birds are poisoned by the poisoned meat, not the baits.

Six skunks, 2 foxes, 1 badger, 1 dog (own, lost in 1930); February 1, 1928; Summit Level and near Sheep Ranch, Calaveras County; government poison.

Doves, jackrabbits (not counted); Bear Valley, San Benito County; poison put out by ranchers.

Eight skunks and civet cats; fall of 1925; South Fork Mountain; Trinity County. Quail, skunks; 1928 to 1930; Waldo district in Yuba County.

Skunks, badger, mink; find these animals around every station where poison is used providing they inhabit the country. Have found very few mink as poison must be put out near streams or they don't get it, but the other two animals I have found in numbers. The skunk has been nearly put out of our country (Modoc County) by poison. As for bird life I believe poison has done very little damage here, the crow being the only bird it seems to kill and sometimes a sage hen. Last year there were several head of cattle killed by eating poisoned baits in this valley and many valuable sheep dogs. I believe the poisoning campaigns are wrong.

Eight skunks; August and September, 1928; near Putah Creek, Lake County.

Robins, jays, 3 coons, 5 skunks; summer and fall, 1929; in Mad River section, Humboldt County. (Part may have been in traps.)

Skunks, coon, foxes; Dunlap, Squaw Valley and Kings River district, Fresno County; state and county men and private individuals. On one occasion I saw as many as fourteen skunks killed at one bait set by a rancher for coyotes. I lost two valuable dogs by poison.

About 15 skunks, about 10 coons; in February; between Garberville and Alderpoint, Humboldt County; state poisoner.

Skunks; near Bridgeville, Humboldt County. In February the men I work for sent for the state poisoner. He came and put out five stations and ten baits. He asked me if I would look after them for him. The first time I went around I found 12 skunks, the next time 8, and the next time 5; also a few dead quail near there. I took the

rest of the poison up and buried it and when the man came back I told him how it got the skunks and he said, "Yes, we always get a few." No coyote tracks were seen from December 4 to the following June 17 when I left.

Three skunks; about December, 1929; Upper Mad River, Trinity County.

Five or 6 skunks, hawks, crows; different dates extending over four years; on own ranch in Mattole, Humboldt County.

Few birds and cottontail rabbits; July; after poisoning squirrels near Mount Poso, Kern County; poisoned barley put out by county and property owners.

Quail, doves, chickens; found dead after poisoning for squirrels with poisoned wheat on own ranch near Maricopa, Kern County. Campaigns are valuable to destroy squirrels but destructive to fur bearing animals and doves.

About 12 skunks; in last two years; Humboldt County. Think poison put out mostly by sheepmen. Poison should be abolished. I have personally lost two fine dogs that absolutely would not bother sheep.

Very few skunks, coons; Sherwood Valley, Mendocino County; government hunters.

Very few skunks, coons; since campaigns started; Sherwood Valley; government hunters. I own and lease about 10,000 acres and they trap and poison on it.

Larks and small birds (not over 6); about three years ago; near Corona, Riverside County; private parties put out poisoned barley. I never saw more than one-half dozen fur-bearers killed by eating poisoned squirrels; wildcats mostly. Am very much in favor of the campaigns for killing squirrels.

Very few jays, skunks; vicinity of Low Gap, Humboldt County; government trappers and myself put out strychnine and poisoned barley.

Buzzards, skunks (not many); at different times in Humboldt County.

Magpies, crows, skunks, foxes, dogs; at Whitmore, Millville and Bella Vista, Shasta County; sheepmen, cattlemen and farmers put out Bernet's sure death capsules and strychnine.

Several each of skunks, blackbirds, sage hens, doves, dogs (own); at various times during the year; in Big Valley and Modoc National Forest, Lassen County; strychnine.

I trap every season in Lassen County (Willow Creek Valley) and in my travels I have seen sheep dogs, porcupine, house cats, and skunks that were unquestionably killed by poison put out for coyotes by these state trappers, but to my knowledge I never saw a dead coyote.

Approximately 100 skunks, 25 hogs, dogs; in last three years; vicinity Round Valley, Mendocino County; U. S. coyote poison. I own 1080 acres of range land and keep all kinds of livestock. I am very much opposed to the present coyote campaign due to the destruction of animals other than predatory animals.

Quite a few quail, doves, meadowlarks; in the spring; around Merced River country killed by poisoned barley.

About 15 mudhens and ducks; November, 1929; near Fresno Sewer Farm and Hunting Preserve.

Sixteen skunks, 43 foxes; January and February, 1930; seven miles north of Oroville, Butte County.

Raven, skunk; own ranch, Mendocino County; state hunter and myself. Poison is sure to get skunks if it is used at all. Campaigns are good.

A dozen or so skunks, 3 or 4 coons; about four or five years ago; Bear River ridge country, Humboldt County; one man hired by state and one hired by rancher; mostly strychnine.

Skunks, foxes, badgers, song birds (about 50); November and December, 1922-23; Red Rock, Siskiyou County; U. S. Biol. Surv.; strychnine.

Quail, doves, foxes, skunks (quite a few); last three or four years; in coast range mountains and foothills, Tehama County; coyote poisoners.

Not a great many doves, foxes, skunks, 1 porcupine; 1924 to 1926; twenty to forty miles above Sonora, Tuolumne County; hoof and mouth disease hunters; strychnine.

Several skunks, foxes; 1928 and 1929; Brown Valley, Yuba County; strychnine.

Seven dogs (own); Springville, Tulare County.

About 20 skunks, about 20 coons; December, 1929; southern Trinity County; coyote poison.

Coons (no count kept), skunks (5 in one small gully); February, 1928; near Kekawaka, Humboldt County; state trappers, tallow bait.

Numbers of small birds, buzzards, rats; about 1916; near Springville, Tulare County; Forest Service and land owners, barley and strychnine.

One quail, 2 doves; about June, 1926; on own farm in Hat Creek Valley, Shasta County; poisoned barley and wheat.

Skunks, coons, wildcats (dozen or so); in last five years; mountains thirty-five miles southeast of Eureka, Humboldt County; ranchers and government trappers, strychnine.

About 4 dozen quail; in fall, 1926; on Mt. Diablo and foothills, Contra Costa County; poisoned barley.

During the fall of 1927, poisoning was first brought to my attention. A sheepman had moved into this vicinity (Delpiedra, Fresno County) and that spring and summer he had the government poisoners out. In September of that year I was deer hunting a couple of miles from Delpiedra and near a spring I counted 17 dead animals. This included fox, coon and skunk and I remember distinctly only two coyotes. A number of other times I have run across dead fox, coon and skunk. Have never kept track of the number but am certain they were poisoned.

Skunk, coon; several at Kneeland, Humboldt County.

Crows, magpies, skunks, coon, badger, dogs (many); many times; many places.

Three birds, 1 dog; June, 1929; North Fork, Mariposa County; poisoned wheat put out by myself.

One skunk, 2 coons; July 5 or 6, 1930; Humboldt County; poison more harmful than good.

Quail (3 at one time, 4 at another time), coon, fox, skunk; 1927 and 1928; Shasta County; poisoned barley.

Report of the work with poison for the Bureau of Biological Survey in Glenn and Tehama counties in 1924 from January 23 to May 12. These are the numbers I found during the campaign: 6 coyotes, 2 wildcats, 11 gray fox, 9 skunks, 4 ring-tailed cats, 2 coons, 2 fishers, 3 dogs. This is a copy of my record of my work done in the campaign. I lived on Log Spring Ridge in the coast mountains of Tehama County since 1919, and the coyote poison campaign has reduced the fur bearers to nothing along the poison line and for one mile or more on each side. Before 1924 I would see a fisher track often but now never see one. Lost 2 dogs in 1930, because poisoner left poison after season was over.

Foxes, wildcats, skunks; mostly in Breckenridge Game Refuge.

Gray squirrels, dogs, coon, skunks; winter of 1928; Sugar Pine Mountain.

Quite a number each of quail and rabbits; past two years (1930); Pacheco Pass, along highway.

Doves, quail (not counted); Shasta and Tehama counties.

Quail, skunks, coon; 1926 or 1927; on South Fork, Cottonwood Creek, Tehama County.

About 20 or 25 skunks, foxes, coons, cats; December 20, 1929; around Clear Lake, Lake County; poison put out to kill squirrels and coyotes.

Several skunks, 1 coyote, 2 foxes, 2 buzzards, 1 dog (own); about 1927; Sonoma County. That winter I was trapping fur bearing animals and there wasn't anything to be taken so the poison must have worked pretty close.

One skunk, 1 coyote, 1 badger, 7 gray foxes; about October 20, 1929; between Taft and Santa Maria.

Four skunks, 1 female and 4 young coons; killed by eating squirrels poisoned by self on own farm, in Tehama County.

Five to 7 skunks; in 1927; on Milpitas Ranch in southern Monterey County; poison put out by land and cattle company.

Two skunks, 3 civet cats; December, 1929, and January, 1930; Little Buck Mountain, near Garberville, Humboldt County.

One pheasant, 12 quail, 10 skunks, 1 fox, 10 hogs, 2 dogs; 1928; on sheep ranges of Butte County; sheepmen and Wool Growers Association put out strychnine.

Twenty-five song birds and jays; May and June, 1930; Descanso, San Diego County; poisoned barley put out by private parties.

Doves, wild pigeons, cottontails; find some every year; near Glennville, Kern County; myself and neighbors poisoning squirrels, mostly with strychnine on barley.

Jays, hawks, skunks (very few); at different dates over a three-year period in Mendocino County; U. S. Biol. Surv.

Skunks; Paicines, San Benito County; U. S. Biol. Surv., strychnine.

Skunks, wildcats, coons (quite a few); spring of 1927; near Weaverville, Redwood Creek, Trinity County; government poisoners.

Birds (several kinds), skunks, coons, dogs; during summer, 1925, and November, 1929; Mendocino coast, Humboldt and Trinity counties; mostly sheepmen putting out strychnine.

About 6 quail; around 1926; Clarksburg, Yolo County; wheat soaked in strychnine to kill field mice in orchard; suggested by Farm Advisor.

Three skunks, 1 gray fox, 1 brown bear; November, 1927; head of Hay Gulch, Trinity County; U. S. Biol. Surv. cooperating with sheepmen; I firmly believe that these poison campaigns do much more harm than good. My belief is based on nine years' observation in northern Trinity County. Here the fur bearers are becoming more scarce each year while the coyotes seem to be as plentiful as when poison operations first began.

Seven quail, 5 skunks; in 1929; Humboldt County; strychnine poisoned wheat put out by farmers.

Four skunks, 2 foxes, 1 opossum, 5 rabbits; during July and August, 1928; on ranch near Bonny Doone, Santa Cruz County; poison put out privately.

About 6 quail, about 3 rabbits, 2 dogs, 1 cat; found dead in last several years; Contra Costa, Santa Clara, and Monterey counties; campaigns very valuable, if properly conducted and care taken to prevent game birds and animals being destroyed.

Kit foxes, skunks, coons, dogs; scattered in different localities.

Five skunks, 1 coon; 1928; in ranges above Ukiah, Mendocino County.

Ducks, pheasants, quail; April, 1929; around Goose Lake and Tule Lake, Modoc County; poison was put out for gophers.

Eighty-three skunks counted, summer poisoned in Capell Valley, Napa County (before 1928). At same time found but two scalped coyotes (both of which were pups) at poison stations.

Skunks, coons, wildcats (a few dozen); at all times of year; Chaparral Mountain and head of Redwood Creek and Mad River country; poison in tallow and deer meat.

Hawks, crows; in Blocksburg section, Humboldt County; coyote poison put out by government hunters. It is the only means to get rid of the coyotes and in so doing thousands of deer are saved.

Seven foxes and gray squirrels; 1928; Franklin Hill, Plumas County; U. S. Biol. Surv.

Skunks, ring-tailed cats (never kept track of number); 1922 or 1923; Sutter Buttes, Sutter County; coyote poison.

Four skunks, 2 foxes, dogs (own); Dog Creek Mountain and Toll House region, Shasta County; government poisoner.

Many quail, doves, foxes, coons, skunks, 3 bears; in a number of localities; strychnine.

Three skunks, 1 coon, 1 fox; October, 1927; on Big Salmon Creek near Albion, Mendocino County.

Few magpies, skunks; 1924 to 1929; Flourney district, Tehama County; government poison.

Seventeen bears killed in August, 1930, by poison in the Fort Baker country. Poisoner took three old horses and killed them at different places in the bottom of a cañon where he knew that the bears stayed, and filled them up with strychnine. A few days later the seventeen bears were found dead a short distance from the horses and from what I have seen the number of cubs that died from losing their mother will bring the number a lot higher. Three skunks, April, 1930; within two miles near Bridgeville, Humboldt County.

Found about a score of California quail, pheasants, and meadowlarks in March, April and May of last few years in Santa Clara and San Benito counties; poisoned grain around squirrel holes almost everywhere. Could be avoided by eliminating use of poisoned grain as, apparently, rodents leave a lot of it untouched; at least that is my observation. I have seen a number (5) of dead golden eagles (apparently not shot) and this may be the result of eating squirrels sick from poisoned grain. Opinion of campaigns: a waste of money and cause an economic loss; by destroying Nature's balance will in time exterminate many useful species.

Tried poisoning on my own ranch in Calaveras County, and it was effective, but at the same time I lost a very valuable cattle dog, undoubtedly from killing one of these poisoned squirrels, which fact nullified the good done by killing the squirrels. Since that time, I have used gas with just as good results and without any danger to the domestic animals.

Song birds, skunks, badgers, foxes, coons, dogs; several hundred over a period of ten years; Modoc County, 1924-25; Madera County, 1926; Imperial County, 1927; usually U. S. Biol. Surv., sometimes stockmen; various kinds of poisoned baits. Squirrels must be destroyed; badger, fox, skunk and coyotes are the natural enemies of squirrels.

Skunks, over 30 in winter 1926-27, over 20 in winter 1927-28; north of Red Bluff, Tehama County. I think the poison kills more fur bearing animals than coyotes.

I went to kill some mountain lions on Coal Fork, Tehama County, three years ago. We had just pitched camp when our lead hound staggered into camp and was soon dead. Next morning we found we were in a poison station. There was a part of a horse lying on a rock and small pieces of meat all around it. There were 3 foxes, 1 coon, and 5 skunks dead there. Three days later we came back and found the meat had been dragged a short distance down the gulch by a bear which was close by, dead. Have found 3 dead fisher in one day, poisoned.

Doves, quail, cattle dogs; summer of 1928 and 1929; on Breckenridge, Piute and Greenhorn mountains; government trapper.

Very few skunks; Round Valley, Mendocino County; U. S. Biol. Surv.; mostly strychnine.

Eagles, hawks, skunks (2 or 3 of each); during last two or three years; near Willits, Mendocino County; private trappers and U. S. Biol. Surv.; strychnine.

Two skunks; 1928; Upper Mattole, Humboldt County; government coyote poisoner.

Fifteen skunks, 7 foxes, 1 badger, 1 coon; at different times in the summer; near Plymouth, Amador County; poison put out by ranchers, traps by government trapper.

Four quail, 1 dove, 1 fox; about October 20, 1928, at Table Mountain, Fresno County.

Quail, fox, skunk; during last ten years; in Madera County; more squirrels now than there were fifteen years ago before they started poisoning.

Quite a few rabbits; 1928; Monta Vista Ranch, San Diego County; poison put out by rancher, secured through Farm Bureau. In cultivated districts these campaigns are of definite value.

About 12 valley quail, 3 foxes, 1 coon, gray squirrels; winter of 1928-29; in Kimshew district and Durham district, Butte County; meat and grain.

Valley quail, mountain quail, skunk, bear, fox, deer, 1 dog (own); about 75 in all in past six or eight years; in Tehama County.

Quail, cottontail rabbits, skunks, coon, fox; summer of 1929; in different parts of Amador County; U. S. Biol. Surv.; think strychnine.

Two chickens; summer, 1930; Benicia Arsenal; U. S. Government; poisoned grain.

Thirty skunks, 5 wildcats, 18 marten, 7 fox, 2 fisher; September, October, and November, 1928 and 1929; Shot Gun, Mears, Flume and Clear creeks, Shasta County; sheepmen and government trappers.

Fifteen skunks; Salmon Falls, Eldorado County.

Seven skunks, 1 cat, 3 dogs; 1923; Honey Lake Valley, Lassen County; government trapper.

Skunks, badgers, wildcats, dogs; 14 in 1923; Johnstonville, Lassen County, government trapper. Campaigns good if poison is not used.

Seven skunks; May, 1930; Willow Creek, Humboldt County; government trapper.

Very few magpies and crows; Modoc County; poison used by county for poisoning squirrels.

Fourteen skunks (poisoned), 4 hawks (in traps), 6 buzzards (in traps); 1926 to 1928; in Long Valley, Mendocino County; strychnine put out by Farm Bureau.

Five dogs; 1929-30; Santa Cruz and Tehama counties, Sierra Valley; land owners.

Three doves, 1929, along roadway near Ruth, Trinity County; 4 skunks, near poisoned bait two and one-half miles from Hoaglin, Trinity County; 2 dogs, one died three-fourths of a mile from home. The second dog died in front of my house. I found the bait about 300 yards away.

One dog; spring, 1930; on own ranch at Janesville, Lassen County.

Approximately 6 skunks; near Garberville, Humboldt County; federal and state trapper, strychnine and traps. Without the federal and state trapper, raising of sheep would be practically impossible in this section. Five coyotes have been trapped and poisoned in the last six months in this vicinity.

One crow, 1 skunk, 2 dogs; about four or five years ago; in Humboldt County; government man; strychnine in tallow pills.

Seven or 8 skunks; January and February, 1929; in own pasture in Pope Valley, Napa County; strychnine placed by owner of land. I placed the poison in horse meat to kill sheep-killing dogs. Campaigns are very good. We have many more deer since the coyotes and bobcats are being caught.

I worked for the Government as hunter and trapper for two years, and I found if not careful with distributing poison baits, skunks and coons would pick them up.

Scores of mourning doves (accidental), band-tailed pigeons (purposely); 1897 to 1904; vicinity of Los Angeles and Santa Monica; private parties—farmers. My feelings are all antagonistic to the extermination campaigns of recent years.

Four skunks at one place, 2 foxes, brush rabbits; June, 1916; Estrom Valley, Tulare County; barley put out by Forest Service.

Skunks, coons, wildcats (not more than 12); during last four or five years; Mendocino County; state poisoner and sheepmen, coyote poison.

Skunks, coons, civet cats (never kept count); Mendocino and Humboldt counties; government poisoners.

Larks, doves, blackbirds, smaller birds; 1930; in Center and Providence school districts in Big Valley, Lassen County; myself and other farmers, strychnine.

Four chicken hawks, 3 eagles, 1 quail, 15 cottontails and jackrabbits, 32 skunks; December, 1929, and January, 1930; about two miles west of Hildreth, Madera County; caught in traps by myself to protect domestic stock. Squirrel poisoning has been effective and I approve of the campaigns.

Quail; poison put out for squirrels.

Seven skunks; August, 1928; Diamond Mountain, Lassen County; 2 coons; September, 1930; Skeene Creek; sheepmen with no authority put out strychnine.

At least 50 skunks; several years ago at beginning of coyote poisoning in Elk Ridge district of Humboldt County; tallow baits with strychnine.

Seven martens, 7 red foxes, 1 dog; in fall, 1926; Hope Valley and Grass Lake, Alpine County; strychnine. I have sheep and have been running them on the open range for several years and haven't had a single one killed in the flock by coyotes.

Quite a few doves; different times in San Luis Obispo and Madera counties; mostly by farmers; poisoned wheat.

One buzzard, several jack rabbits; on home ranch, Calaveras County; strychnine put out by owner.

Eight or 10 skunks, wildcats; summer, 1929; sheep range in Humboldt County; men hired by sheepmen to poison coyotes.

About 25 skunks, 2 coons; within the last three years; northern Mendocino and Humboldt counties; U. S. Biol. Surv.

Many skunks, coons, hogs, bear, dogs; between 1925 and 1929; Humboldt County; government poisoners, strychnine. Three different government poisoners worked this ranch at different times. During that time two coyotes were found that had been poisoned, but we found many skunks and coons.

Three skunks; November 28; Willow Creek, Humboldt (?) County.

Three skunks, 1 bear, 1 dog; about May, 1928; Bald hills east of Redwood Creek, Humboldt County; sheepmen.

Following is result of squirrel poisoning in country around Lookout, Modoc County. Strychnine was put out by five men on horseback on area approximately four square miles. Each man was given about forty pounds of the treated grain and instructed to scatter small quantities whenever he saw squirrel holes. The men were given saddle horses and a definite area to patrol. In this manner we were able to cover practically every foot of the section. List shows number of dead animals found in 1920 and 1921, respectively: ground squirrels, 500, 375; jack rabbits, 8, 9; Steller jay, 7, 6; robin, 10, 5; crow, 5, 3; turkey vulture, 1, 0.

Ten skunks, 20 quail, 5 hogs, 50 gray squirrels; at different dates; Clover Creek region, Shasta County; poisoned barley put out by squirrel poisoners.

Few crows, blackbirds; Lassen County; squirrel poison.

Possibly as many as 75 quail, 25 doves, 10 skunks, 4 coons; winter of 1928-29; Payne Creek and Plum Creek sections for fur and Sacramento Valley for birds, Tehama County. Farm Bureau poisoning squirrels and state or county after coyotes; grain killed the birds, I opened many. Whenever we must reduce the undesirable species at the expense of our valuable game and fur, the campaign has, in my opinion, lost its value. I am strictly against coyote control by means of poison.

One skunk; about September 15, 1930; on this farm which is fourteen miles north-east of Marysville. Poison put out by county agricultural commissioner in cooperation with a federal agent, trying to kill crows and magpies, which were then destroying almond crop. Had no effect on birds.

About 28 skunks, coons; April 17, 1927; Black Spring, Humboldt County; coyote poison put out by government men.

About 6 each of doves, quail; summer, 1929; near Lewiston, Trinity County; farmers poisoning ground squirrels with poisoned barley.

Six skunks; 1929; in Covelo district, Mendocino County; government coyote poison.

Six skunks, 4 coons, 7 ring-tailed cats, 2 fisher; January 1, 1930; Tom Head Mountain, Tehama County; U. S. Biol. Surv. poisoners.

One skunk, 1 coon; Hayfork, Trinity County.

Quail. About eight or nine years ago I put in one summer killing squirrels and most every day I would come across lots of quail and other birds, dead from eating poisoned barley that the ranchers put out for the squirrels.

Skunks, foxes; about 1924 or 1925; in Fresno County; ranchers and county poisoning coyotes.

Chinese pheasants, marten; 1927-28; Tule Lake and Buck Butte. Campaigns valuable to the sheepmen mostly.

Grouse, quail, bear, 20 skunks, 20 coons, 2 coyotes; 1929-30; Humboldt County. I was patrolman for the United States Forest Service and my beat was in both Del Norte and Humboldt counties. I think these men were careful in placing their baits. All and any poison is dangerous in the mountains and should be done away with.

About the middle of April, 1930, in southern Fresno County, I ran into a patch of ground of about one-quarter acre where poisoned grain had been put out for squirrels. The owner of the land was with me. There were 2 or 3 dead cottontails and a dead jack rabbit lying near; also a number of meadowlarks and Brewer Blackbirds, and another bird, a towhee, if I remember rightly. I asked the farmer if he often found dead birds around the poisoned grain and he said nearly always. As the grain was scattered on the open ground I suggested that he put it only at the entrance to or in the holes and thus probably reduce the mortality of other bird and animal life but he thought it would be less effective on the ground squirrels. Poisoned grain for squirrels was put out on the Barton ranch on 10-mile Creek near the juncture of the South and Middle forks of Kings River, September, 1931. Several dead deer were found shortly afterwards, within half a mile of the place and as their tracks were numerous around the poisoned grain it is assumed that they were killed by it.

Skunks, coons, ring-tailed cats; 1920, 1924, 1927; Mendocino, Trinity, and Humboldt counties; U. S. Biol. Surv.

The facts given in this report bear out but do not materially modify my own general opinions and conclusions as already expressed (see Condor, xxxiv, 1932, p. 111) regarding the problem of the relation of pest control to wild life. Those opinions were formed from studies and experiences of my own and entirely independent from those of other persons, some of which are summarized in the present paper.

Material presented here concerns only a small phase of the whole problem of pest control. Readers are cautioned not to base conclusions on these facts alone.

The summaries of statements are reports of observations, not, generally, expressions of opinion.

Nearly all the reported species are ones that would be conspicuous; other animals killed may have been inconspicuous and thus not seen or not recognized as to species. In either case they would not be mentioned.

Circumstances under which most of the poisoned animals are found are such that there is small likelihood of the observers mistaking the cause for death.

This paper does not deal with the question of responsibility for the present wild life conditions in California.

Museum of Vertebrate Zoology, Berkeley, California, February 12, 1932.

FROM FIELD AND STUDY

The White-cheeked Goose in Oregon.—For many years, I have made an effort to locate and examine specimens of *Branta canadensis* taken by hunters along the coastal strip of Oregon, but the majority of the geese of this group that I have personally taken or seen proved to be *hutchinsii* or *minima*. However, I had the opportunity recently for examining a fine pair of these birds taken on Chichagof Island, Alaska, which renewed my interest in the matter. On re-examining geese taken years ago, I located a fine old adult male *Branta canadensis occidentalis* taken by me at the north tip of the sandspit on the west side of Netarts Bay, Tillamook County, Oregon, on November 27, 1914 (original no. 2016, coll. S. G. J.). This bird was shot from a small flock coming in from the open ocean and headed for the placid waters of the bay.

Another specimen, a juvenile female taken by Elmer Griepentrog at Salem, Oregon, on November 28, 1927, now in the collection of Dr. Louis B. Bishop, proves to be a typical *occidentalis*, and the third examined was shot near Eugene, Lane County, Oregon, "during the fall of 1928" by Robert Park and was mounted by E. C. Eckert of Eugene in whose possession the specimen now is.

Further evidence of the occurrence of these geese along the coast was disclosed during a conversation with William Doughit of Gold Beach, Curry County, Oregon. On December 13, 1931, he told me that a few days previously he had shot "three of those big black honkers" just south of the mouth of the Rogue River. On further questioning Mr. Doughit, he said the geese were large and very dark colored, "not a bit like the honkers killed at Klamath, but much darker-plumaged all over."

The specimen taken by me at Netarts Bay and the Eckert specimen from Eugene are typical *occidentalis*, matching the Alaska specimens in every detail as to size and coloration. I have not seen the Griepentrog bird but it has been examined by Dr. Bishop and others who pronounce it *occidentalis*. With this evidence at hand, we now know that *Branta canadensis occidentalis* wanders south from Alaska during late fall at least to the coast of Oregon and into the Willamette Valley.—STANLEY G. JEWETT, Portland, Oregon, January 16, 1932.

Some Trapping Records of Birds that Eat Bait Used in Ground Squirrel Control.—In the campaign for the destruction of ground squirrels in California by the use of thallium-poisoned hulled barley, it has been claimed that passerine birds and game birds, particularly quail, will not eat the barley. In order to test the validity of this claim, I carried on the following experiment between September 28 and December 14, 1931.

Two government sparrow traps of identical size and design were placed side by side, touching each other, in an open space among trees and shrubs. These traps were so placed in relation to their surroundings that birds would have no preference between the two, aside from their choice of bait. During the first thirty-two days the traps were located about fifty feet north of Cañon Road, Strawberry Cañon, Berkeley. During the last twenty-eight days they were in the grounds of the University of California swimming pool, about 100 yards east of the first location. They were thus in operation a total of sixty days. All birds were banded as soon as first trapped.

Trap A was baited with baby-chick feed, canary seed, bread crumbs, etc. Trap B was baited solely with hulled whole barley.

TRAP A		TRAP B	
Song Sparrow.....	2	Song Sparrow.....	4
Fox Sparrow.....	27	Fox Sparrow.....	27
Golden-crowned Sparrow.....	21	Golden-crowned Sparrow.....	13
Nuttall Sparrow.....	1	San Francisco Towhee.....	15
San Francisco Towhee.....	10	San Francisco Brown Towhee.....	1
San Francisco Brown Towhee.....	1	Junco.....	1
Dwarf Hermit Thrush.....	2	Nicasio Jay.....	4
Nicasio Jay.....	4	California Quail.....	22
California Quail.....	26		
Total.....	94	Total.....	87

The table above shows the number of individual birds trapped; the following table the number of captures, including repeats.

TRAP A		TRAP B	
Song Sparrow.....	2	Song Sparrow.....	7
Fox Sparrow.....	58	Fox Sparrow.....	36
Golden-crowned Sparrow.....	36	Golden-crowned Sparrow.....	20
Nuttall Sparrow.....	1	San Francisco Towhee.....	23
San Francisco Towhee.....	22	San Francisco Brown Towhee.....	1
San Francisco Brown Towhee.....	1	Junco.....	1
Dwarf Hermit Thrush.....	2	Nicasio Jay.....	8
Nicasio Jay.....	18	California Quail.....	30
California Quail.....	31		
Total.....	171	Total.....	126

It will be seen that of a total of 181 birds banded, 87, or 48%, entered the trap baited solely with hulled whole barley of the kind used, when treated with thallium, in the attempt to exterminate ground squirrels.

The total number of captures shows a slightly smaller percentage of birds entering trap B; even so, of the 297 captures, 126, or more than 42% apparently preferred barley to the various other kinds of feed scattered on the ground beside them. Many individual birds, especially Fox Sparrows, San Francisco Towhees and quail, were attracted by both kinds of bait, and apparently entered either trap indifferently.

If this grain had been treated with thallium and placed on the ground as is done by squirrel poisoners, probably most of these 181 birds would have been killed.—E. L. SUMNER, SR., Berkeley, California, March 1, 1932.

Clapper Rails Occur on Marshes of Salton Sea, California.—While engaged in making a survey of nesting waterfowl for the Division of Fish and Game in 1931, I visited the marshes about the southeast end of Salton Sea, June 10 and 11. I was observing the birds on a tule marsh near Mullet Island, at the edge of Salton Sea, six miles west of Niland, Imperial County, in the late afternoon, June 10, where, about sundown, the presence of a number of Clapper Rails was established. Three birds were definitely observed, one of which ran across the road only a few feet in front of my car. Many others of this species were heard calling and "cackling" in the nearby tule patches.

Unfortunately no attempt was made to secure a specimen for subspecific identification due to the absence of Captain Davis, proprietor of Mullet Island, from whom permission to do so should first have been obtained. However, judging from the close faunal relationship of this region with the adjacent Lower Colorado River Valley and the connection of the two localities by the New and Alamo rivers, it seems probable that the Imperial County rails are Yuma Clapper Rails (*Rallus obsoletus yumanensis*) (Dickey, Auk, XL, 1923, p. 90; van Rossem, Condor, XXXI, 1929, p. 215).

The following morning, June 11, I worked the edge of the marshes between New and Alamo rivers, where no rail was seen, but this locality was well adapted to the species, which could well have been present yet not observed during the bright, hot morning. Another locality, known as Raynor's Duck Club, four miles south of Calipatria, seemed an ideal spot for this species. Here heavy tule growth surrounded a large pond formed by a widening of the Alamo River. Again I was prevented from inspecting this region by the absence of the owner.

I did not consider these observations worthy of publication until I noted that the A. O. U. Check-list (4th ed., 1931, p. 96) states the known range of *yumanensis* to be the "Lower Colorado River Valley from Laguna Dam south at least to Yuma," and reference to available literature failed to provide any extension of this range. Therefore, it seems desirable to draw attention to the probable rather common occurrence of this species in the lower Salton Sea region, in the hope such action may spur future collectors in this vicinity definitely to establish its subspecific identity by collecting specimens.—JAMES MOFFITT, Division of Fish and Game, 510 Russ Building, San Francisco, California, February 16, 1932.

Mortality among Birds in Antelope Valley, California.—In Antelope Valley, Los Angeles County, California, we had a very heavy wet snow on February 15, 16 and 17, 1932. On the morning of the 16th, on our ranch, we began to see dead bluebirds

and dead robins, and live ones very feebly trying to find shelter. I scattered wheat and milo, but the birds made no effort to eat these foods. By the 17th hundreds were dead. Under a joist that holds our wide eaves, in a pile on the ground, were 52 dead birds. The men gathered up 101 in the barn. In a pile in the circle in front of the houses were 23, with dozens scattered around under the trees. None was found out in the fields.

The robins did not pile up, but a person could not walk without seeing dead ones every few feet. Neighbors reported the same thing. One man buried 200, and there were lots left. Everyone had robins in the house, but they would not eat. The little bluebirds were fat. I think they must have been migrating and the wet, cold weather got them. We found no other kinds of dead birds. Our usual supply of sparrows, woodpeckers, etc., came through well.

A lot of good-sized branches were broken off the trees, among them branches off the china-berry trees. The bluebirds did try to eat the china berries, but would not touch the wheat or milo.

Lancaster people, ten miles away, reported a similar quantity of dead birds.—LYDIA G. WELD, Lancaster, California. [Transmitted by Ralph Hoffmann, March 17, 1932.—Eds.]

Bird Remains from Indian Dwellings in Arizona.—Through the courtesy of Mr. Lyndon L. Hargrave of the Museum of Northern Arizona, I have recently studied a small collection of bird bones from abandoned Indian dwellings in Arizona. Mr. Hargrave states that the bones were obtained from a dwelling site in the Piñon belt thirty-five miles north of Flagstaff, Coconino County. The bones were accumulated by the Indians between 1000 and 1100 A. D., as attested by associated pottery types and tree rings, he says. The collection comprises sixty-eight dissociated bones, sixty-three of which can be identified. The remaining five bones either are lacking in distinguishing characters or are so fragmentary as to be indeterminable. (In a recent communication, dated February 2, 1932, Mr. Hargrave explains that certain of the bones here reported are from Indian dwellings at Wide Ruin, near Navajo, Apache County. These are: All of the Turkey material except 1 ulna; 1 skull, 1 lower jaw, 1 sternum, 1 sacrum, 2 coracoids, 2 humeri, 2 ulnae, 1 carpometacarpus, 2 femora, 2 tibiotarsi, and 2 tarsometatarsi of the Sparrow Hawk; and 1 indeterminable ulna. All other bones are from the Flagstaff site.)

The ornithological interest attached to these remains is largely in the suggestions as to past ecologic conditions which the assemblage presents and in the occurrence of forms which are not present or are not common in the area at the present time. Of course it is difficult to be sure that the Indians did not obtain animals at considerable distances from the dwelling site; but for the most part the remains probably represent animals secured in the immediate Coconino Plateau region or in the adjacent Colorado River Valley. The bones of raptorial and game species predominate.

Buteo borealis, Red-tailed Hawk: 1 ulna.

Falco mexicanus, Prairie Falcon: 1 humerus and 1 ulna.

Falco sparverius, Sparrow Hawk: 1 skull and lower jaw, 1 sternum, 2 sacra, 3 left coracoids, 1 right coracoid, 2 right humeri, 2 left humeri, 3 left ulnae, 2 right ulnae, 2 left carpometacarpi, 2 left femora, 1 right femur, 2 right tibiotarsi, 2 left tibiotarsi, 1 right tarsometatarsus, and 1 left tarsometatarsus. Many of these bones are exceptionally small and agree in size only with males of the small race *peninsularis*. This is especially true of the skull, ulnae and carpometacarpi. *Peninsularis* occurs normally in the Cape district of Lower California, but Grinnell (Univ. Calif. Publ. Zool., 32, 1928, p. 113) reports specimens, apparently of this race, from the Colorado River region south of the United States boundary. There is, then, a considerable representation of dwarfed Sparrow Hawks present in this collection of bones. Measurements of the lengths of carpometacarpi of Sparrow Hawks are as follows: ♂, no. 15548 Mus. Vert. Zool., *F. s. phalaena* (seemingly an averaged-sized male), 28.3 mm.; ♂, no. 55043, *F. s. peninsularis*, 24.1 mm.; specimens from Indian dwellings, 24.7 mm. and 25.8 mm.

The abundance of the Sparrow Hawk suggests that the Indians made special use of their plumage or possibly that they kept them as pets.

Lophortyx gambelii, Gambel Quail: 3 sterna and 1 tibiotarsus. To my knowledge the Gambel Quail does not occur on this part of the Coconino Plateau today, although I have noted it as far east as Phantom Ranch in the bottom of the Grand Cañon.

Meleagris gallopavo, Turkey: 1 sternum, 1 group of thoracic vertebrae, 3 sacra, 1 scapula, 1 right coracoid, 1 left coracoid, 2 left ulnae, 1 carpometacarpus, 1 right femur, 1 left femur, 2 right tibiotarsi, 1 left tibiotarsus, 1 right tarsometatarsus and 1 left tarsometatarsus. The two femora are widely different in point of size, representing the extremes of variability for the species as given by Howard (Univ. Calif. Publ., Bull. Dept. Geol. Sci., 17, 1927, p. 8). The tarsi are perfectly preserved and are entirely typical of *Meleagris*. One ulna is peculiar in that the shape of the external articular facet closely resembles that region of the ulna of *Parapavo*. Considerable individual variation is to be noted, however, in *Meleagris*, and in addition, the bone from the Indian dwelling seems to be the ulna of a young individual, the full adult characteristics of shape perhaps having not appeared at the time of the bird's death.

Turkeys could have been obtained by the Indians in the vicinity of the San Francisco Peaks.

Fulica americana, American Coot: 1 tarsometatarsus. This is a somewhat unusual find in this arid region. Possibly it was obtained along the Colorado River.

Otus asio, Screech Owl, 1 ulna. Swarth (Pacific Coast Avifauna, 10, 1914, p. 30) states that *Otus asio* is not known from this plateau region. It is probable, however, that further explorations in the district would reveal its presence there today. The ulna is that of a large-sized *O. asio* and is not to be confused with the Flammulated Screech Owl. I also have compared it with *Cryptoglaux funerea*.

Bubo virginianus, Horned Owl: 1 scapula, 1 coracoid, and 1 tibiotarsus.

Colaptes cafer, Red-shafted Flicker: 1 ulna and 1 carpometacarpus.

Pica pica, Magpie: 1 carpometacarpus. Swarth (*op. cit.*) on page 45 cites but two records for the magpie in Arizona, both from the drainage basin of the Little Colorado River.

Turdus migratorius, Robin: 1 ulna.

—ALDEN H. MILLER, *Museum of Vertebrate Zoology, Berkeley, California, November 21, 1931.*

Some 1931 Notes from Lincoln County, Montana.—Wood Duck (*Aix sponsa*). A pair of Wood Ducks was observed at a small forest lake near Fortine, April 15, 1931. The birds were evidently migrants, as later visits to the lake and others in the locality failed to reveal their presence. This is the first record of the occurrence of this species in Lincoln County that I have obtained during an observation period of twelve years.

Avocet (*Recurvirostra americana*). An Avocet was seen at Dry Lake, near Fortine, August 30, 1931. I had not previously observed this species in Lincoln County.

Great Gray Owl (*Scotiopteryx nebulosa nebulosa*). On July 4, 1931, in a narrow cañon along the Stillwater River near Stryker, in extreme eastern Lincoln County, three Great Gray Owls were watched closely for about fifteen minutes. Their markings, actions, and awkwardness displayed in flying and alighting identified them as young birds of the year. I had not previously obtained first-hand evidence of the breeding of this species in this locality. An old-time trapper and woodsman who possesses an exceptionally wide knowledge of wild life informs me that he once saw two adult and four young Great Gray Owls near Fortine during the summer.

White-throated Swift (*Aëroautes saxatalis saxatalis*). On August 12, 1931, over our farm near Fortine, I saw a White-throated Swift flying with a scattered flock of resident Tree, Barn, Rough-winged, and Northern Cliff swallows. I have found this species to occur regularly but rarely in the Cabinet Mountains, near Libby, but had not before recorded it from elsewhere in the county.

Red-headed Woodpecker (*Melanerpes erythrocephalus*). One bird of this species was seen near Fortine, June 18, 1931. This constitutes the westernmost record for the Red-headed Woodpecker in Montana.—WINTON WEYDEMEYER, *Fortine, Montana, January 14, 1932.*

Swainson Hawks in the Arroyo Calero, Santa Clara County, California.—On July 28, 1928, with a class in ornithology from the State College at San Jose, California, the writer noted approximately twenty Swainson Hawks (*Buteo swainsoni*) in the Arroyo Calero (about ten miles south of San Jose). Ten were seen at one time. Most

of them were perched in oaks and on posts near the road, not in the air, since it was still very early in the morning. As is the custom of Swainson Hawks they showed but little timidity and allowed very close approach. That they were Swainson Hawks there is no doubt, for the white bib of the upper throat was plainly visible in those that sat near the road; when overhead they showed black-tipped primaries with large light areas beneath the wings; as they flew away a light-appearing rump and unbarred tail came into view.

Since the writer had but recently come to California the unusual nature of this observation for this region was not at that time fully appreciated. However, many trips into this region at many seasons of the year subsequently have failed to show a Swainson Hawk. Reference to Grinnell and Wythe's "Directory to the Bird-life of the San Francisco Bay Region" (p. 81) discloses that this hawk is rare in this region. —GAYLE PICKWELL, *State College, San Jose, California, November 4, 1931.*

Boreal Flicker in San Diego County, California.—According to Grinnell's "Distributional List of the Birds of California," published in 1915, there had been up to that year, but three "pure-blood" specimens of Boreal Flicker (*Colaptes auratus borealis*) collected within the boundaries of the state, although numerous questionable records had been made in literature. Since then, to the present time, an additional collected specimen and two sight occurrences (one very doubtful) have been recorded. Localities of the four specimens that were taken are as follows: Two in Marin County, one in Sonoma County, and one in Los Angeles County.

With knowledge of the rarity of this form in southern California, it was with some surprise that the writer recognized an adult male Boreal Flicker when it alighted on a bird feeding table just outside his office window at the Natural History Museum, Balboa Park, San Diego, about 8:30 on the morning of December 4, 1931. The bird was within four feet of the writer's eyes and was thoroughly scrutinized. A slow movement frightened the flicker and it flew to a small ornamental buttress on the side of the building. Here it was collected from a nearby window and is now number 15615 in the collection of the San Diego Society of Natural History.—LAURENCE M. HUEY, *San Diego Society of Natural History, Balboa Park, San Diego, California, January 18, 1932.*

Bill-of-fare of a Family of Pacific Horned Owls.—Recently I discovered a nest of Pacific Horned Owl (*Bubo virginianus pacificus*) containing three young about two weeks old. The nest had formerly been occupied by a California Blue Heron and was located in the top of a valley oak in the center of quite a thick growth of oaks. On this nest were the following birds, all freshly killed: 9 Red-shafted Flickers (*Colaptes cafer collaris*), 5 Long-tailed Jays (*Aphelocoma californica immanis*), 3 Band-tailed Pigeons (*Columba fasciata*).

If this is any indication of the usual fare of this species of owl, bird life in general must suffer frightfully from its depredations.—W. B. SAMPSON, *Stockton, California, March 18, 1932.*

Junco hyemalis connectens in Arizona.—During January of 1930, Mr. Harry S. Swarth kindly identified a number of Juncos for me. Among the lot were two *Junco hyemalis connectens*. One of these, evidently a male, was secured January 10, 1927, on Granite Creek about five miles northeast of Prescott just below the pine belt. The other specimen, a female, was taken February 8, 1928, well within the pine belt, and just southwest of the city.

Since the above were identified by Mr. Swarth, I have taken two other Juncos, also from Yavapai County, which no doubt are referable to *J. h. connectens*. They are as follows: Prescott, February 4, 1930, a female; Prescott, November 18, 1931, a male.

This very likely constitutes a first record for Arizona.—E. C. JACOT, *Prescott, Arizona, January 21, 1932.*

Woodhouse Jays on the Hopi Mesas, Arizona.—Observers in the San Francisco Mountain region, Arizona, have found the Woodhouse Jay (*Aphelocoma californica woodhousei*) a characteristic bird of the forest phase of the Upper Sonoran Zone, and particularly that part predominating in piñons (*Pinus edulis*). Rarely has this bird been seen near the lower fringe of the juniper belt. I was, therefore, surprised this past

fall to find the Woodhouse Jay the commonest bird on the Hopi Mesas (altitude about 6000 feet), north of the Little Colorado River, many miles from the nearest piñon tree. On October 14, several of these jays were observed feeding about the school grounds at Hotavilla, an Hopi Indian village. The species was also commonly seen on the 15th, 16th and 17th at Oraibi, Shungopovi and Mashongnovi, and Polacco, respectively.

At Hotavilla juniper trees (*Juniperus occidentalis monosperma*) were growing near the school on land reserved for Government employees, which accounts for the presence of these trees near the village. Only fruit trees grow near the other villages. Juniper and piñon trees have for centuries been used for fuel or building material by the Hopi Indians, so that now all trees, other than fruit trees, have been destroyed for miles around. The surrounding country is very sparsely covered with grasses and "rabbit brush", the greater part being bare rock and sand.

At each of these villages the jays were rather tame, feeding about corrals, and on one occasion a jay was seen perched upon the roof of an Indian house. With the exception of several jays observed at a waterhole, never more than two were seen together. It is interesting to note that this species has been observed under rather similar conditions in October and November at Fruitland, New Mexico (F. M. Bailey, *Birds of New Mexico*, 1928, p. 478). These observations in the Hopi country cover a narrow strip along the road, some 25 miles long, in which at no place is found the normal habitat of the Woodhouse Jay.—LYNDON L. HARGRAVE, *Museum of Northern Arizona, Flagstaff, Arizona, February 10, 1932.*

Additional Records of Birds from Cavern Deposits in New Mexico.—As a result of further archeological investigation in New Mexico, Mr. Edgar B. Howard of the University Museum, University of Pennsylvania, has submitted bones of birds for identification from the same cavern that last year yielded remains of the California Condor (see *Condor*, xxxiii, 1931, pp. 76-77). The cave in question is located about fifty miles west and somewhat north of Carlsbad, New Mexico, in the upper part of Rocky Arroyo, which comes out of the Guadalupe Mountains. The bird remains, according to notes supplied by Mr. Howard, were found at levels from two and one-half to eight feet below the surface, associated in part with human materials of the Basket-maker group, and in part obtained at deeper levels where man-made artifacts are lacking. Bird bones occurred below those of any other vertebrates.

Of particular interest in the collection are further fragmentary remains of the California Condor (*Gymnogyps californianus*), including a premaxilla of very large size, parts of two ulnae, and a bit of a sacrum. The premaxilla is larger and more robust than in the skeletons at hand for comparison but is equalled by specimens from the Pleistocene asphalts of Rancho La Brea in California according to comparisons kindly made for me by Dr. Hildegarde Howard. The present bones are especially important in their verification of the former range of this condor in New Mexico; and their presence with numerous bones of other birds removes any supposition that the condor remains might have been transported here by human agency.

In the present collection there is the coracoid of a Black Vulture (*Coragyps atratus*) that marks an extension of range for that species, since in modern times this bird has been recorded only west to western Texas, and has not been found in New Mexico. This single bone therefore is the first record for the species from the state in question. This brings to mind that fifteen years ago in examining bird bones collected at Hawikuh Pueblo, 17 miles southwest of Zuñi, New Mexico, I found a section of a metacarpal of a vulture that agreed in form with the Black Vulture. This bone was so fragmentary that I did not venture on its evidence to announce the occurrence of this species. With the specimen from near Carlsbad in hand it may however be properly put on record. There is indicated a considerable range for the Black Vulture beyond the limits at present known for it. It is proper to state that Hawikuh Pueblo according to present information was occupied from about the middle of the fifteenth century to 1670, being much more recent than the Guadalupe cave deposits, which as will be explained presently must go back at least two thousand years.

The Plumed Quail (*Oreortyx picta*) is represented by one entire, and one broken, metatarsus, a coracoid, and a tibio-tarsus, all in excellent condition. This is another species not known previously from New Mexico, as it ranges now from Washington and western Nevada through California into Lower California. The cave material

does not differ from modern skeletons as shown in two in the U. S. National Museum, and five loaned for comparison by Dr. J. Grinnell from the Museum of Vertebrate Zoology. The occurrence of this quail in New Mexico is as remarkable as the presence of the California Condor in the same deposits.

In addition to the species mentioned, the deposits contain remains of the Lesser Prairie Chicken (*Tympanuchus pallidicinctus*), Turkey (*Meleagris gallopavo*), Turkey Vulture (*Cathartes aura*), Cooper Hawk (*Accipiter cooperi*), Swainson Hawk (*Buteo swainsoni*), Prairie Falcon (*Falco mexicanus*), Great Horned Owl (*Bubo virginianus*), Short-eared Owl (*Asio flammeus*), a Flicker (*Colaptes* sp.), and the Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*). The Turkey Vulture, represented by the distal half of a humerus, has the size of *Cathartes aura septentrionalis*.—ALEXANDER WETMORE, U. S. National Museum, Washington, D. C., January 23, 1932.

A Robin Roost in Oakland, California.—Bird students living in the vicinity of Oakland have had this year an opportunity to witness one of the most remarkable gatherings of a feathered species that it has been the fortune of the present writer to study—and right at our door, so to speak. Many of us are familiar with Lake Merritt and the surrounding Lakeside Park, and with the various birds that can be seen and studied therein. If a person happened to be in the park during the past winter season and stayed until dark in the vicinity of the enclosure where the ducks are fed, he could not fail to have noted the remarkable flight of incoming robins and to have watched them gather in the nearby area until wonder was roused as to how so many birds could hide in so small space.

The writer heard some of the boys mention the large number of robins that were coming to the park, but he did not realize the import of the statement until he actually witnessed the gathering. I made up my mind to try to estimate the number coming in to spend the night, and accordingly the next evening I went to the park and selected a point where the sky could be scanned in most directions. From the previous observation I had determined that the majority of the incoming birds arrived from the direction of the hill areas to the eastward.

About 3 p. m. on January 10, 1932, a few birds arrived, coming in high up; small detachments continued to arrive until 4 p. m., after which the flight increased by large numbers until about 5:25 p. m. when no more birds could be seen arriving. At first it was easy to actually count all the birds arriving at this center of activity. Soon it was necessary to divide the horizon into thirds, then tenths, and later into twentieths, so as to be able to estimate the number of arrivals. Singly, in two's and three's, in small flocks and in immense flocks they arrived—mostly high up in the air. By turning the binoculars toward the hills they could be made out as far as the glass could distinguish objects of their size.

The flock formation was not regular; some scattered, some close together. Arriving in the vicinity the birds would commence to drop rapidly toward the trees selected for the night. With partially closed wings they would almost fall into the park. The downward fall would be checked occasionally with a quick opening of the wings, but it did not take much time on the part of the birds to reach a level where a final swoop would enable them to light in a tree or on the intervening plots of grass.

Soon the trees bare of foliage were thickly dotted with birds even though the roosting trees having foliage received a large share of arrivals. Some went to the water basin in the vicinity to bathe and drink. The grass was thickly dotted with birds getting a last few worms before retiring. Here was a case of the "late bird catches the worm". I counted about two hundred birds in an area twenty by one hundred and fifty feet. At the close of the day not a bird was in sight. All had gone to the trees and bushes which had foliage; not one was roosting in the trees that were bare of foliage. The area covered by the trees and bushes used as a roost by the robins was about an acre and a half.

As to the count, I finally arrived at a total of 165,000 birds. It hardly seems possible that so many birds could arrive in the time taken up by the incoming flight or that the foliage selected for the roost could hold such a host of birds. This is an estimate, of course, but I believe it is as accurate as can be obtained.

I sent two of the boys through the trees at dusk, and the way the robins flew out was astounding. They soon settled back, however, and soon all was serene again. One could hear a clicking sound as if the birds were snapping their bills, but this was probably the final restlessness before sleep.

We thought it best to try to see the behavior of the robins in the early morning when this host of birds was leaving for the distant feeding grounds. Accordingly I went to the lake before daylight on January 24 and waited for signs of life from the clump of trees where I knew there were thousands of robins. On this day the sun was scheduled to rise at 7:22 a. m. It was a clear night and very cold. Frost was on the grass plots and the moon was still above the horizon, being almost full. Not a sound from the trees. The Baldpates and Pintails were whistling on the lake and a little later a Killdeer joined in with its unmistakable cry.

At 5:50 something must have disturbed the robins, for they started to chatter and a few flew out but soon returned to the trees. All was quiet again. At 6:10 a slight indication of dawn was visible in the east and again there was a little disturbance at the roost. Then all was quiet again.

At 6:25 the Coots were heard at the lake. A jack rabbit suddenly appeared on the grass plot not over thirty feet away and after looking the machine over hopped away. Later we saw two of these rabbits chasing each other around the grass plot. At this same time there was another disturbance at the roost and it is possible that a few birds left.

At 6:27 colors began to show in the east; the robins were evidently now awake, judging from the noise at the roost. By 6:35 they were very much awake and by 6:44 they were leaving in one continuous stream for the hills. Flocks of ducks were arriving at the lake from distant feeding grounds and two Black-crowned Night Herons flew to the island.

The robins when leaving mounted higher and higher as they flew. Pairs could be seen occasionally chasing each other as they left, always following the same line of flight, however. By 7:15 the flight was over.

The boys had noticed many robins on the grass plots on a previous morning, but on this morning very few alighted on the grass. Those that did alight did not catch any worms as far as I could see. It then occurred to me that during extremely cold weather, when frost was on the grass, the worms did not come to the surface. I do not know that this is a fact, however.

The number of worms consumed by these robins must be enormous. On every hand you can see the robins pulling large and small worms from the ground. I watched one which had a particularly large worm to get out. He pulled back hard but the worm came out very slowly. Finally the limit of pull was reached by the robin and quickly releasing its hold it took another one lower down and finally the worm came loose. It was swallowed whole and what a wiggly meal it must have been!

Another interesting observation connected with worm pulling by the robins is the action of the gulls. I observed a Glaucous-winged Gull, three California Gulls and one Ring-billed Gull standing on the grass plot amid about eighty robins. Every time a robin would start pulling out a worm a gull would make a run toward him. Of course the robin would let go of the worm and then the gull would gobble it up! This was repeated again and again; but I could not determine whether the Ring-billed Gull followed this practice, as it left soon after I arrived on the scene. Sometimes the worm would come out quickly enough for the robin to get it down before the gull could get on the job. If the worm was too big for the robin to swallow immediately the gull would pursue it, but the robin usually dived under a protecting oak tree or madrone. The gull would not follow there.

It will be interesting to note this spring whether the robins leave for other locations in a body or gradually disappear. Some will stay to breed of course, but the majority will undoubtedly leave for other breeding grounds.—L. PH. BOLANDER, JR., *Oakland, California, February 3, 1932.*

The Harris Hawk in Ventura County, California.—In November, 1931, while in Ventura on jury duty, I visited the "Pioneer Museum" which is located in a room of the court house building. In looking over the case of mounted birds I at once noticed a very dark brown hawk with a single white band at the end of the tail. On examining the specimen, which was labeled "Zone-tailed Hawk ♀", I decided that it was a new bird for this county. I asked Mr. E. M. Sheridan, the curator, where it came from, and he said it was mounted by Chas. E. Law at Fillmore. The next day I called on Mr. Law, and he said the specimen was brought to his taxidermy shop on April 9, 1929, by Romaine Young of Bardsdale. Mr. Young said that he had killed the bird while hunting rabbits in Red Rock Cañon, two miles south of Bardsdale.

On looking up the description of the bird in Bailey's "Handbook of Birds" I decided that it was not correctly identified but was an adult female Harris Hawk (*Parabuteo unicinctus harrisi*).—SIDNEY B. PEYTON, Fillmore, California, January 25, 1932.

The American Goshawk Breeding in Wyoming.—Most authorities record the goshawk as a rare migrant or possible winter resident within Wyoming. The recent A. O. U. Check-list (1931) seems to have overlooked the possibility that the central Rocky Mountain region is within the breeding range of this species and neither the eastern nor the western form is accredited as a breeding bird within the states of Montana, Idaho, Utah, Wyoming or Colorado. I desire to record an instance of breeding and the taking of a set of three eggs of the American Goshawk (*Astur atricapillus*) in the Pole Mountain district of eastern Albany County, Wyoming, on May 10, 1931. I believe this to be the first breeding record of goshawks for the state and one of the very few for the central Rocky Mountain region.

Mr. Wm. McCreary, of the University of Wyoming, should really have credit for this record, as in the summer of 1930 he informed me that a pair of goshawks had occupied a nest the previous season in the Pole Mountain area. He described the location to me and I visited the nest in July, 1930. It was not occupied at that time. There were no birds to be found in the vicinity and there were no indications that the nest had been used that year. This nest was only about twenty-five yards from a fairly well traveled road and I naturally assumed that the pair had deserted it for a more isolated location.

During the annual army maneuvers in August, 1930, I was fortunately detailed on mounted scout duty and was able to reconnoiter a great deal of the Pole Mountain district. At that time I located two or three other large nests which, from their construction, large size and general situation, could be assigned to no other species than the goshawk. No birds were ever seen, but I was convinced that a pair was regularly resident of the district.

May 10, 1931, I made a tour of the old nests, hoping to find the goshawks at home and breeding. The nests which were considered most suitable were visited first, but there was no sign of occupancy. As a last resort I went over to the nest which was used in 1929 and was both pleased and surprised to receive a hearty reception. My "four-cylinder Lincoln" was laboring along a rough road that twisted up the narrow valley; traveling was slow and difficult. When about two hundred yards from the old nest, there was a flash of blue-gray across the road as the male shot down at the car. He just missed the radiator and turned upward right in front of the windshield, all the time uttering a rather shrill and defiant *kak-kak-kak*. As I continued toward the nest, he made several more dives at the car and kept up a constant cackle. The tail of another bird could be seen projecting over the edge of the nest. This bird came off after I had done considerable pounding on the tree and throwing of sticks at the nest. It was evidently the female as she was much larger than the other bird, which was then perched on a dead stub a few feet from the nest.

The nest was 45 feet from the ground in the forks of a large aspen. The tree was growing at the edge of a small stream in a narrow valley. The elevation was about 8,000 feet. The surrounding trees were rather thick and consisted of a mixed growth of aspen and spruce. The nest was thirty inches in diameter and nineteen inches high. It was composed of good sized sticks and large twigs, with a lining of smaller twigs, pieces of bark and bits of green spruce. This nest had evidently been in use for several years as the sticks in the bottom of the nest were well decayed. The eggs are plain bluish white in color and they measure in size, 58.1 x 46.0, 57.5 x 45.7, and 57.4 x 46.2 mm. Incubation had progressed only a few days.

While climbing the tree, and when at the nest, both birds were very aggressive, noisy and vicious, the female actually ripping the back of my shirt on one dive. Between attacks each would circle around the nest just overhead or perch for a short time on some branch or stub a few yards distant. Their notes consisted of a rather shrill cackle which might be described as *kak-kak-kak*, repeated five or six times in rapid succession. A rather low cluck was heard a few times when the birds were perched close together. Several pictures were taken, but a dark sky and heavy wind prevented any successful results.

Neither of these birds was collected, but they were so close that it was possible to examine them carefully and I have no hesitancy in classifying them as of the eastern race, *Astur atricapillus atricapillus*.—CAPTAIN L. R. WOLFE, U. S. Army, February 10, 1932.

EDITORIAL NOTES AND NEWS

The Seventh Annual Meeting of the Cooper Ornithological Club, held in Los Angeles April 22 to 24, was well attended and at least as successful in all other respects as the best meeting in the history of the Club. A full report of it will be given in the July *Condor* by Governors' Secretary Storer. Among transactions at the Governors' meeting was the addition of Alden H. Miller to the editorial staff for handling Club publications. Also it was a great satisfaction in these financially parlous times to have assurance from Business Managers Chambers and Robertson that the Club is solvent—that the Club's income continues so as to make unnecessary any serious reduction in our printed output.

The biennially appearing membership list published in this issue of the *Condor* shows a total present enrollment in the Cooper Ornithological Club of 877 members. This new and down-to-date roster, so useful to our members as a directory, was prepared by John McB. Robertson, with painstaking care for correctness in all details.

Mr. J. Hooper Bowles of Tacoma has received appointment to a newly reconstituted Advisory Board to the Secretary of Agriculture. The function of this Board is to recommend regulations for properly carrying out the provisions of the Migratory Bird Treaty Act as obtaining between Canada and the United States. Judging from the composition of this Board (ten out of the fifteen members representing State Game Departments) its chief concern for the birds will be "to insure their use in field sports." Mr. Bowles, a member from the district which includes Washington, Oregon and California, is excellently qualified to represent ornithology as such, and we feel confident he will use his knowledge and influence toward the protection of bird-life for those other values, also, which are obtained in other ways than through the use of the shot-gun shell. We feel safe in suggesting that Mr. Bowles will welcome recommendations or comments directly from any of his fellow members of the Cooper Ornithological Club.

"An Introduction to Bird Study in British Columbia" is the title of a recently appeared book by J. A. Munro, Chief Federal Migratory Bird Officer for the Western Provinces of Canada (Victoria, B. C., Charles F. Banfield, Printer, 1931 [our copy received February 24, 1932], 99 pp., 26 colored pls., 22 "black and white" pls., 11 figs. in text). Chapters on general subjects, and the accounts of species, all admirably adapted for popular use, bear the unmistakable stamp of careful work. The numerous illustrations have been intelligently selected for the prime purpose of the book. This contribution from Mr. Munro is written in such a tone throughout that it is bound to produce a high standard of popular regard for the bird-life of the Province of which it treats.

A booklet (of 98 pages) which we feel sure will prove interesting and informative to students of American birds has come out (March, 1932) under the title "Introduction to Ornithological Nomenclature." The authors are Mary Ferguson Coble and Cora Smith Life, of Los Angeles, and the printers are Wm. B. Straube Printing Co., of the same city. Copies of it may be had at one dollar each from Prof. A. C. Life, Science Bldg., University of Southern California, Los Angeles. The pronunciations and derivations of the scientific names of western birds are given in considerable detail; also brief accounts of the persons for whom birds have been named, and lists of the meanings of words from the classical languages which are commonly used in the formation of generic and specific terms. The user of this contribution will need to watch out for the rather numerous typographical errors; but despite this unfortunate circumstance we feel that this booklet merits extensive distribution.

In the *Condor* for May, 1931 (vol. 33, pp. 132-134) we took occasion to review at length, and favorably, volume one of David Bannerman's "Birds of Tropical West Africa." This volume came out about June, 1930; now volume two (pp. xxx + 428, 15 pls., 114 text-figs, same publishers and price) has reached us [our copy received January 29, 1932]. The

same high standards, both as to text and illustrations, are held to as we found in the first installment of this fine work. To Mr. Bannerman we extend our congratulations that conditions, aside from the obvious factor of his own industry, remain favorable to the rapid advance toward completion of this large undertaking.

The second of Dr. Linsdale's papers dealing with the poison question appears in this issue of the *Condor* and well merits thoughtful reading by all those naturalists who believe that wild animal life (bird and mammal) should be preserved. Curiously, last year's report, which consisted of a summary of findings as to the effects of certain special poison practices, was met by open hostility on the part of the agents and agencies of "pest control." The chief kind of reaction apparent to date has been effort along various lines completely to discredit the writer of that first report and also any other person who openly expressed himself as having confidence in the scientific character of the conclusions reached. Each and every serious proponent of true conservation who reads the criticisms emanating directly from, or inspired by, those destruction-promoting agencies will, of course, carefully analyse the documents in question and also will re-read the Linsdale papers. Indeed, we recommend as a method of analysis, the use of that literary device known as the "deadly parallel"! We are assuming that *Condor* readers will not need to have any detailed reply in our columns to the specific charges, direct or by devious implication, which have been made elsewhere. However, we consider ourselves open-minded and will be glad to receive advice or suggestion along this line.—J.G.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

JANUARY.—The January meeting of the Southern Division of the Cooper Ornithological Club was held Tuesday, January 26, 1932, at the Los Angeles Museum, Exposition Park, Los Angeles, Harold Michener presiding. The minutes of the December meeting of the Southern Division were read and approved; the minutes of the December meeting of the

Northern Division were read by title on motion of Mr. G. Willett.

Applications for membership were received as follows: A. H. Anderson, Route 2, Box 139, Tucson, Arizona, proposed by John McB. Robertson; Ryland Edward Benson, 125 South West St., Anaheim, Calif., proposed by Harold Michener; Ezra R. Day, 3789 S. 52nd St., Salt Lake City, Utah, proposed by J. W. Sugden; Mr. W. Wallace Nichols, 1263 West 99th St., Los Angeles, Calif., proposed by George G. Cantwell; Mr. John Slocum, Thatcher School, Ojai, Calif., proposed by Loe Miller; Olive E. Williams, Route 2, Puente, Calif., proposed by Miriam S. Faddis.

The nominating committee brought in the names of Harold Michener for President; J. McB. Robertson, Vice-president; R. B. Cowles, Secretary. Mr. Willett moved that the nominations be closed. Dr. Miller amended the motion, that the secretary be instructed to cast an unanimous ballot. Motion as amended, passed.

Mr. Jack Boas from the Bureau of Education and Research, Division of Fish and Game, State of California, gave a brief talk on the status of California as a leader in the field of conservation, and discussed the work of conservation as illustrated by various types of activity. The talk was followed by a series of pictures illustrating some of the phases of wild life conservation and activities.

Meeting adjourned.—R. B. COWLES, Secretary.

FEBRUARY.—The February meeting of the Southern Division of the Cooper Ornithological Club was held Tuesday, February 23, 1932, at the Los Angeles Museum, Exposition Park, Los Angeles, President Michener presiding. The minutes of the January meeting of the Southern Division were read and approved; the minutes of the January meeting of the Northern Division were read.

Applications for membership were received as follows: Mrs. Charles Noel Edge, 113 E. 72nd St., New York, N. Y., proposed by John McB. Robertson; Mr. John Wiley Harrison, Encinitas, Calif., proposed by Mr. J. R. Pemberton; Mr. G. M. Henry, Colombo Museum, Colombo, Ceylon, proposed by Steve A. Glassell.

Attention was called to a recent publication, "Introduction to Ornithological Nomenclature," by Mary Ferguson Coble and Cora Smith Life, published by the Straube

Printing Company, Los Angeles. This little book of 91 pages is entirely devoted to the derivation and pronunciation of the technical names of birds.

Dr. Loye Miller commented on the abundance of Cedar Waxwings present this season, saying that they are much more common than for several years past. He also mentioned a Bohemian Waxwing which had been picked up in Pasadena. The bird was reported as killed by eating nightshade berries, but Dr. Miller found the "nightshade" to be privet berries and the cause of death, a broken neck.

The speaker of the evening, Mr. J. R. Pemberton, showed fifteen hundred feet of film (16 mm.) taken while on an expedition into the Gulf of California on his boat, the *Petrel*. The cruise took two and a half months ending early in February, the party having traveled about 4,000 miles. Although the time of year chosen was unfortunate in some respects it was the only time during which the members of the party found it possible to absent themselves from their regular duties. A few breeding birds were observed, specimens showing winter plumage and pelage were collected, and several new birds and mammals were obtained.

Adjourned.—R. B. COWLES, *Secretary*.

NORTHERN DIVISION

JANUARY.—The January meeting of the Northern Division of the Cooper Ornithological Club was held on Thursday evening, January 28, 1932, at 8:00 p. m., in Room 2003, Life Sciences Building, Berkeley, with President Wright in the Chair and seventy-five members and guests present. Minutes of the Northern Division for December were read and approved. Minutes of the Southern Division were read. Proposals of new names for membership in the Club were: Philip A. Du Mont, Museum of Vertebrate Zoology, University of California, Berkeley, and Elton R. Edge, San Bernardino Valley Junior College, San Bernardino, Calif., by J. Grinnell; Henri G. Hill, San Jose, Calif., by Gayle B. Pickwell; Mrs. Howard F. Fletcher, 1172 Laurel St., Berkeley, Calif., and Mrs. A. W. Rushforth, 118 The Uplands, Berkeley, Calif., by Amelia S. Allen; and Miss Grace M. Taylor, 3904 Cerrito Ave., Oakland, Calif., by Ellen A. Cockefair.*

Mr. Cain announced that on February 11 Mr. H. S. Swarth would speak before the Audubon Association upon "A Subarctic Summer." As one of the two dele-

gates from the Cooper Club to the meeting of the Affiliations Committee of the Pacific Division of the American Association for the Advancement of Science, Dr. Evermann reported that the annual meeting of the Pacific Division will be held at Pullman, Washington, June 15 to 18, 1932, and while no formal meeting of the Cooper Club will be held at that time many members will doubtless be present. Mrs. Amelia S. Allen, chairman of the nominating committee, reported its selections to be: President, Dr. Jean M. Linsdale; Vice-president, Dr. Gayle B. Pickwell; Secretary, Mrs. H. W. Grinnell. President Wright then asked for nominations from the floor. None being offered, Alden Miller moved that nominations be closed and this motion was carried. President Wright instructed the secretary to cast a ballot electing the above-named persons to be officers of the Northern Division for 1932—which was done.

Dr. Alden Miller suggested that in the Northern Division the need for a standing committee on Conservation has become apparent. This committee should function in three ways: first, to keep the Club informed on current problems in conservation, especially of birds; second, to serve as a source of information to inquirers; third, to bring before meetings in premeditated form matters requiring action by the Division. Dr. Miller moved that the Chair be empowered to appoint such a committee. This motion was seconded by Mr. Cain and unanimously passed. President Wright stated that the appointment of this committee would lie in the hands of the incoming president, Dr. Linsdale.

Local reports were called for and the following birds were given comment: Santa Cruz Song Sparrow, first seen carrying nesting material in the Grinnell garden on January 18, and on present date, January 28, nest found to be completed and one egg laid. One Bohemian Waxwing seen by Dr. Storer on January 17 at Davis within a flock of Cedar Waxwings; Western Evening Grosbeak, several reports, among them those of Mrs. Mead, who noted 4 individuals feeding on maple seeds on Piedmont Avenue on January 13 and who saw 10 of the birds in the same locality next day, and of Mr. Cain who found them at the Johnson sanctuary at San Pablo, where they were so numerous as to eat two or three quarts of sunflower seed daily; Ring-necked Pheasant, one reported to Mrs. Allen as having been

seen in North Berkeley hills; 3 cocks and 2 hens seen in the same locality by Mr. Pease. Dr. Hall reported that Mr. Elkington of Orinda, just across the hills, had recently released several of these birds and those seen were probably from this flock. Mockingbird, Miss Champreux reported one seen on the Berkeley Campus and President Wright asked all present who had seen the species in Berkeley this month to raise their hands. Eight members responded, confirming the fact that the Mockingbird is not the rarity it formerly was in the Bay region. Mrs. Lindsey of Hayward reported that five Audubon Warblers, usually difficult to lure into the banding traps, had visited hers when apple was used as bait. Mr. Borell on last Sunday saw 100 or 150 Canada Geese on the water above San Pablo dam. Mr. Swarth reported that 42 Seed Snipe imported for that purpose had been turned loose by a private importer at Live Oak, and that an Elliot Pheasant had escaped from captivity elsewhere. Raymond Gilmore announced having seen a Road-runner on the Campus, and Philip Du Mont told of watching a male Allen Hummingbird in Golden Gate Park on January 17, the earliest date yet recorded for the species in the Bay region.

The speaker of the evening was Dr. Tracy I. Storer who reviewed most instructively the long series of alien birds introduced in California and their varying fates. He pointed out that in spite of the thousands of birds released and large sums of money spent for their importation and propagation, all that sportsmen have had to show for it in California has been the brief open season on Ring-necked Pheasants in 1925 and 1926 in Inyo and Mono counties.

Adjourned.—HILDA W. GRINNELL, *Secretary*.

FEBRUARY.—The February meeting of the Northern Division of the Cooper Ornithological Club was held at 8:00 p. m. on February 25, 1932, in Room 2003, Life Sciences Building, Berkeley, with President Linsdale in the Chair and about fifty members and guests present. Minutes of the Northern Division for January were read and approved. Minutes of the Southern Division were read. Mr. George E. Mushbach, Hotel Bigelow, Ogden, Utah, was proposed for membership by T. T. McCabe, through the Western Bird-banding Association. The secretary announced

that she had received a letter from Mr. Frank M. Carroll, 815 N. Rampart St., New Orleans, La., stating that he would like to correspond with club members interested in the exchange of data. Mr. Cain invited Cooper Club members to attend the March meeting of the Audubon Association at which Dr. Pickwell will be the speaker.

Gordon Bolander reported the presence of two Townsend Solitaires in Oakland, both seen several times in the month of February, and latest on the meeting date, February 25. Miss Sherman told of a singing Mockingbird present daily at her feeding table when supplied with apples. On January 6, Dean Blanchard secured a White-throated Swift at Santa Paula, Ventura County. He described the present status of the Bird of Paradise in New Guinea and the Celebes, and told also of the laxity of the game laws in China and the Malay Peninsula, as observed by himself on a recent tour.

Miss Rinehart asked whether Band-tailed Pigeons were rare in this vicinity, having seen a flock of 15 of these birds over Moraga Ridge on February 14. Professor Brooks replied that they are not rare at present and that he had seen two large flocks near Grizzly Peak during the past month. Mrs. Kelly told of shore-birds seen from the San Mateo bridge on February 2 and 10, largely at the Mt. Eden end, where Western Grebes, Sandpipers and Godwits were abundant. On the 22nd of this month, at Dumbarton bridge, Eared Grebes, Surf Scoters, Godwits and Red-backed Sandpipers were common, while at Bolinas Bay on the 18th, hundreds of Black Brant were in view. Mrs. Kelly also told of the presence of four flocks of Western Evening Grosbeaks, aggregating about 100 individuals, near Ross, Marin County, where they were seen feeding under deodars, monkey-puzzle trees and holly bushes. Under the latter, fallen berries were plentiful.

The evening's talk was given by Philip A. Du Mont upon his experiences bird-collecting in Madagascar for the American Museum of Natural History, as a member of the international expedition arranged by that institution, the British Museum and the Paris Museum of Natural History. Mr. Du Mont's entertaining talk was supplemented by an excellent series of colored lantern slides.

Adjourned.—HILDA W. GRINNELL, *Secretary*.

OFFICERS AND MEMBERS OF THE COOPER ORNITHOLOGICAL CLUB

Revised to April 15, 1932

OFFICERS

BOARD OF GOVERNORS

Loye H. Miller, President	
Tracy I. Storer, Permanent Secretary	
Amelia S. Allen	Harry Harris
J. S. Appleton	W. B. Judson
Ralph Arnold	C. B. Lastreto
F. N. Bassett	Jean M. Linsdale
Louis B. Bishop	Joseph Mailliard
Harold C. Bryant	Harold Michener
H. W. Carriger	Wilfred H. Osgood
W. Lee Chambers	J. R. Pemberton
Herbert L. Coggins	Gayle B. Pickwell
Raymond B. Cowles	Wright M. Pierce
J. S. Cooper	Guy C. Rich
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Barton W. Evermann	John McB. Robertson
Walter K. Fisher	Harry S. Swarth
Hilda Wood Grinnell	George Willett
Joseph Grinnell	Curtis Wright
George M. Wright	

EDITORIAL STAFF

Joseph Grinnell, Editor
Jean M. Linsdale, Associate Editor
Alden H. Miller, Associate Editor

BUSINESS MANAGERS

W. Lee Chambers
John McB. Robertson

NORTHERN DIVISION

Jean M. Linsdale, President
Gayle B. Pickwell, Vice-President
Hilda Wood Grinnell, Secretary

SOUTHERN DIVISION

Harold Michener, President
John McB. Robertson, Vice-President
Raymond B. Cowles, Secretary

MEMBERSHIP DIRECTORY

Year following address indicates date of election to membership. Year in parenthesis indicates date of advancement to Honorary or Life Membership.

HONORARY MEMBERS

*Life Honorary Member
**Contributor to Endowment Fund
§Contributor to Subsidy

* **Bailey, Florence M. (Mrs. Vernon),
1834 Kalorama Road, Washington, D.
C. 1910 (1920) (1920).
Evermann, Dr. Barton Warren, Calif.
Academy of Sciences, Golden Gate Park,
San Francisco, Calif. 1911 (1926).

Fisher, Dr. A. K., Biological Survey,
Washington, D. C. 1904 (1924).

* **§Mailliard, Joseph, 1815 Vallejo St.,
San Francisco, Calif. 1895 (1920)
(1924).

Merriam, Dr. C. Hart, 1919 16th St.,
N.W., Washington, D. C. 1909.

Nelson, Dr. Edward W., Biological Sur-
vey, Washington, D. C. 1904 (1917).

* **Palmer, Dr. Theodore S., 1939 Bilt-
more St., N. W., Washington, D. C.
1903 (1920) (1929).

Richmond, Dr. Charles W., U. S. Na-
tional Museum, Washington, D. C. 1904
(1930).

**Stephens, Frank, Natural History Mu-
seum, Balboa Park, San Diego, Calif.
1894 (1912).

ACTIVE MEMBERS

*Contributor to Endowment Fund

**Contributor to Subsidy

[L.]—Life Member

A

**Abbott, Clinton G., Nat. Hist. Museum,
Balboa Park, San Diego, Calif. 1921.

Abbott, Jacob Bates, 2491 Country Club
Drive, Altadena, Calif. 1930.

Adams, Benjamin, Weathersfield, Conn.
1920.

Adams, Miss Romola M., 912 Linden Ave.,
Long Beach, Calif. 1921.

Albro, Miss Mary Stephanie, 51 Canyon
Road, Berkeley, Calif. 1927.

Alexander, Miss Annie M., The Regillus,
19th and Jackson Sts., Oakland, Calif.
1908 (1923). [L.]

Alexander, Miss Mary C., 2570 Cedar St.,
Berkeley, Calif. 1927.

Allen, Mrs. Amelia S., 37 Mosswood Road,
Berkeley, Calif. 1913.

Allen, Dr. Arthur A., McGraw Hall, Itha-
ca, N. Y. 1911.

Allen, Francis H., 215 LaGrange St.,
West Roxbury, Mass. 1930.

Allen, Walter I., 2057 Pepper Drive, Alta-
dena, Calif. 1922.

Anderson, A. H., 1521 N. Santa Rita Ave.,
Tucson, Ariz. 1932.

Anderson, Edwin C., Dell Rapids, South
Dakota. 1925.

Anderson, Harvey T., Jr., 3062 Weldon
Ave., Los Angeles, Calif. 1931.

Anderson, Dr. Rudolph M., Biol. Div. Na-
tional Museum of Canada, Ottawa, On-
tario, Canada. 1916.

Andrews, Arthur Allen, 376 Flower City
Park, Rochester, N. Y. 1927.

Anthony, A. W., 3947 Center St., San
Diego, Calif. 1921.

- Applegate, Elmer I., Dudley Herbarium, Stanford University, Calif. 1921.
- Appleton, J. S., 1332 N. Citrus Ave., Hollywood, Calif. 1901 (1919). [L.]
- Arnold, Benjamin Walworth, 465 State St., Albany, N. Y. 1927.
- Arnold, John R., 2525 N. McCall Ave., Selma, Calif. 1930.
- Arnold, Leroy W., 3424 Richmond, San Diego, Calif. 1929.
- Arnold, Mrs. Lewis, 2953 Benvenue Ave., Berkeley, Calif. 1921.
- Arnold, Dr. Ralph, 812 Subway Terminal Bldg., Los Angeles, Calif. 1893.
- Ashcroft, Granville Plumber, Yosemite National Park, Calif. 1927.
- Atkinson, Dr. Spencer R., Pacific Southwest Bank Bldg., Pasadena, Calif. 1925.
- Atkinson, W. L., 1735 The Alameda, San Jose, Calif. 1901.
- Atsatt, Miss Sarah R., 345 S. Serrano Ave., Los Angeles, Calif. 1911.
- Atwell, George Dudley, 2806 Summer St., Eureka, Calif. 1926.
- Austin, Oliver L., M.D., Tuckahoe, Westchester Co., N. Y. 1930.
- Averill, Charles Ketchum, 1075 Iranistan Ave., Bridgeport, Conn. 1922.
- Avis, Walter M., 129 S. Thomas St., Pomona, Calif. 1929.
- Axelrod, Daniel, 3039 Seminary Ave., Oakland, Calif. 1930.
- Ayer, Mrs. N. Edward, Upland, Calif. 1929.
- B
- Badè, Dr. Wm. F., 2616 College Ave., Berkeley, Calif. 1903.
- Badger, M. C., Santa Paula, Calif. 1915.
- Bailey, Alfred M., Chicago Academy Sciences, Lincoln Park, Chicago, Ill. 1917.
- Bailey, Bernard, San Marcos, Calif. 1911.
- Bailey, H. H., 820 Alhambra Circle, Coral Gables, Florida. 1903.
- Bailey, Vernon, 1834 Kalorama Road, Washington, D. C. 1904.
- Baker, Jack D., 435 First St., Santa Rosa, Calif. 1930.
- Baker, John H., 1165 Fifth Ave., New York, N. Y. 1930.
- *Baldwin, S. Prentiss, 11025 East Blvd., Cleveland, Ohio. 1920 (1920). [L.]
- *Bales, Dr. B. R., 149 W. Main St., Circleville, Ohio. 1906.
- Ball, Wm. Howard, 1861 Ingleside Terrace, Washington, D. C. 1926.
- Bamford, Mrs. G. L., 1428 Castro St., Oakland, Calif. 1918.
- **Bancroft, Griffing, 2525 First St., San Diego, Calif. 1920.
- *Bangs, Outram, Museum Comparative Zoology, Cambridge, Mass. 1906.
- Barker, Fred, Parkers Prairie, Minn. 1914.
- Barnes, C. A., 1815 S. Western Ave., Los Angeles, Calif. 1921.
- Barnes, Claude T., 359 10th Ave., Salt Lake City, Utah. 1915.
- *Barnes, R. Magoon, Lacon, Ill. 1908 (1921). [L.]
- Barton, E. W., Jr., 1400 Duarte Road, San Gabriel, Calif. 1930.
- Bartram, John, R.R. 2, West Chester, Penn. 1926.
- Basner, Harry, 85 Ludlow St., New York, N. Y. 1930.
- Bassett, Frank N., 91 Merced Ave., San Francisco, Calif. 1919.
- Bastin, Miss Catharine S., University of Oregon, Oregon Bldg., Portland, Ore. 1926.
- Batchelder, Chas. F., 7 Kirkland St., Cambridge, Mass. 1910.
- Bates, Miss Josephine J., 1267 Sunset Ave., Pasadena, Calif. 1921.
- Bates, Lana Louise, P. O. Box 234, Los Banos, Calif. 1930.
- Battles, Carroll David, 2347 S. Highland Ave., Los Angeles, Calif. 1924.
- Baynard, Oscar E., Box 104, Plant City, Florida. 1924.
- Beadel, Henry Ludlow, R.F.D. A, Tallahassee, Florida. 1927.
- *Beck, Rollo H., Planada, Merced Co., Calif. 1894 (1919). [L.]
- Beebe, William, 33 West 67th St., New York, N. Y. 1926.
- Bell, Mrs. Chas. C., Saratoga, Calif. 1928.
- Benjamin, Elbert, 818 Union League Bldg., Los Angeles, Calif. 1920.
- Bennet, Miss Eleanor V. V., 2525 Webster St., Berkeley, Calif. 1920.
- Benson, George, Voltage, Harney County, Oregon. 1926.
- Benson, Ryland Edward, 125 South West St., Anaheim, Calif. 1932.
- Benson, Seth Bertram, Museum Vertebrate Zoology, Berkeley, Calif. 1927.
- *Bent, A. C., 140 High St., Taunton, Mass. 1909 (1922). [L.]
- Bergtold, Dr. W. H., 1159 Race St., Denver, Colo. 1917.
- Betterley, Bertram O., 2005 2nd St., Eureka, Calif. 1922.
- Bickford, E. L., 1202 Jefferson St., Napa, Calif. 1927.
- Bicknell, Mrs. F. T., 319 S. Normandie Ave., Los Angeles, Calif. 1913.
- Bigelow, Homer L., 37 Old Orchard Road, Chestnut Hill, Mass. 1910.

- Birkhead, Robert H., 1115 Kilson Drive, Santa Ana, Calif. 1928.
- **Bishop, Dr. Louis B., 450 Bradford St., Pasadena, Calif. 1904 (1920). [L.]**
- Blackwelder, Miss Martha Jean, Box NN, Stanford University, Calif. 1925.
- Blain, Dr. Alexander W., 2201 Jefferson Ave., Detroit, Mich. 1926.
- Blake, Mrs. Edwin T., Arlington Ave. and Rincon Road, Berkeley, Calif. 1917.
- Blanchard, Miss Barbara D., 1652 Euclid Ave., Berkeley, Calif. 1930.
- Blanchard, Dean H., P. O. Box C, Santa Paula, Calif. 1930.
- Blayney, Miss Nita A., 920 O St., Fresno, Calif. 1911.
- Blickensderfer, Clark, 850 Grant St., Denver, Colo. 1922.
- Bliss, John D., Pozo, San Luis Obispo Co., Calif. 1916.
- Bolander, L. Ph., 435 Vernon St., Oakland, Calif. 1907.
- Bolt, Benj. F., 5300 Brookside Blvd., Kansas City, Mo. 1916.
- Book, Miss Lois Adelaide, P. O. Box 285, Columbus, Indiana. 1930.
- Borell, Adrey E., National Park Service, Yosemite, Calif. 1918.
- Bowdish, B. S., Demarest, N. J. 1910.
- Bowen, Miss Lydia Spencer, 841 Earlham St., Pasadena, Calif. 1930.
- Bowles, J. Hooper, Berg Apts., Tacoma, Wash. 1903.
- Boyers, L. Morgan, 1014 Mariposa St., Berkeley, Calif. 1931.
- Boyle, Ashby D., 1001 E. So. Temple St., Salt Lake City, Utah. 1915.
- Bracelin, Mrs. H. P., 2214 Vine St., Berkeley, Calif. 1930.
- Bradford, Chas. H., 852 E. 5th St., Pomona, Calif. 1925.
- Bradshaw, Fred, Director Provincial Museum, Normal School, Regina, Sask., Canada. 1929.
- Braly, J. C., 285 Fairfax Terrace, Portland, Oregon. 1926.
- Brandreth, Courteney, Ossining, New York. 1925.
- Brandt, H. W., 11900 Carleton Road, Cleveland, Ohio. 1914.
- Bretsch, Clarence, 6201 E. 4th Ave., Gary, Indiana. 1926.
- **Brooks, Major Allan, Okanagan Landing, B. C. Canada. 1906 (1920). [L.]**
- Brooks, Prof. Sumner C., Dept. Zool., Univ. Calif., Berkeley, Calif. 1928.
- Brooks, Winthrop Sprague, 234 Berkeley St., Boston, Mass. 1923.
- Broomhall, W. H., Stockport, Ohio. 1927.
- Brown, Edward J., P. O. Box 700, Eustis, Florida. 1915 (1919). [L.]
- Brown, Mrs. Herbert, 434 E. 2nd St., Tucson, Ariz. 1914.
- Brown, Miss Nellie May, 165 N. Griswold Ave., Tujunga, Calif. 1922.
- Bruner, Stephen C., 17th No. 421, Habana, Cuba. 1925.
- Bruun, Charles A., 1510 Central Ave., Hot Springs, Arkansas. 1925.
- Bryan, Wm. A., Los Angeles Museum, Exposition Park, Los Angeles, Calif. 1921.
- Bryant, Chas. A., 150 Franklin St., San Francisco, Calif. 1922.
- Bryant, Dr. Harold C., National Park Service, Washington, D. C. 1910 (1920). [L.]
- Bryant, Lincoln, Jr., 149 Randolph Ave., Milton, Mass.
- Bryens, Oscar McKinley, McMillan, Luce Co., Mich. 1927.
- Buckman, George, Apt. 310, 2555 Virginia St., Berkeley, Calif. 1927.
- Buhn, Mrs. Minnie, 3027 60th Ave., Oakland, Calif. 1921.
- Bunker, Charles D., Nat. Hist. Museum, State Univ., Lawrence, Kansas. 1928.
- Bunker, Paul F., 717 Spruce St., Berkeley, Calif. 1922.
- Burgess, Miss Dorothy, Occidental College, Los Angeles, Calif. 1929.
- Burk, Miss Genevieve S., 726 Sutter St., San Francisco, Calif. 1925.
- Burleigh, Thomas D., 223 Federal Bldg., Asheville, N. C. 1918.
- Burnell, Miss Elizabeth, 1029 N. Stanley Ave., Los Angeles, Calif. 1921.
- Burnett, W. L., State Agricultural College, Fort Collins, Colo. 1910.
- Burnham, Dr. Clark, 2287 Telegraph Road, Berkeley, Calif. 1907.
- Burns, Frank L., Berwyn, Penn. 1909.
- Burt, Dr. William Henry, Calif. Institute Technology, Pasadena, Calif. 1928.
- Burtch, Verdi, Branchport, N. Y. 1910.

C

- Cain, Brighton C., 503 Plaza Bldg., Oakland, Calif. 1925.
- Calder, James A., Buena Park, Calif. 1917.
- Calder, Mrs. James A., Buena Park, Calif. 1926.
- Camp, Dr. Chas. L., Mus. Paleontology, Univ. Calif., Berkeley, Calif. 1909.
- Campbell, Berry, 138 N. Poppy St., Monrovia, Calif. 1930.
- Campbell, Robert A., M.D., 764 S. Hobart Blvd., Los Angeles, Calif. 1932.
- Canby, Miss Caroline P., R. F. D. No. 2, San Fernando, Calif. 1921.
- Canfield, Mrs. May, 3672 Florida St., San Diego, Calif. 1922.

- Cantwell, George G., 3602 Keystone Ave., Palms, Calif. 1915.
- Carlton, Blondel H., 2421 Durant Ave., Berkeley, Calif. 1931.
- Carpenter, Nelson K., 3763 Dana Place, San Diego, Calif. 1901.
- Carr, Mrs. R. B., 2701 Claremont Blvd., Berkeley, Calif. 1927.
- Carriger, Henry W., 5185 Trask St., Oakland, Calif. 1895.
- Carroll, James J., P. O. Box 356, Houston, Texas. 1926 (1929). [L.]
- Carson, Carl L., Arlington and Rincon Road, Oakland, Calif. 1927.
- Cartwright, Bertram William, 392 Woodlawn St., Deer Lodge, Winnipeg, Manitoba, Canada. 1930.
- Chambers, W. Lee, 2068 Escarpa Drive, Eagle Rock, Calif. 1897 (1919). [L.]
- Chaney, Dr. Ralph W., 1129 Keith Ave., Berkeley, Calif. 1923.
- Chapman, Dr. Frank M., Amer. Museum Nat. Hist., New York, N. Y. 1903.
- Chattin, Miss Susan E., Museum Vert. Zool., Univ. Calif., Berkeley, Calif. 1927.
- Cheney, E. S., 1825 Fifth Ave., Oakland, Calif. 1920.
- Cheney, Miss Mary, 48 Hartford Road, South Manchester, Conn. 1919.
- Childs, E. C., Norfolk, Litchfield Co., Conn. 1930.
- Christy, Bayard H., 403 Frederick Ave., Sewickley, Penn. 1928.
- *Clabaugh, Ernest Dwight, 44 Lenox Road, Berkeley, Calif. 1923.
- Clark, Prof. Harold W., La Jota, Napa County, Calif. 1925.
- Clark, Miss Jess L., Chicago Academy Sciences, Chicago, Ill. 1928.
- Clary, Mrs. Ben Little, Coral Reef Ranch, Coachella, Calif. 1929.
- Clay, C. Irvin, Box 353, Eureka, Calif. 1910.
- Cockefair, Miss Ellen A., 4021 Howe St., Oakland, Calif. 1925.
- Coe, John Edwin, 4015 N. Ashland Ave., Chicago, Ill. 1929.
- Coffin, Mrs. Percival B., 5708 Kenwood Ave., Chicago, Ill. 1926.
- Coggins, Herbert L., 2929 Piedmont Ave., Berkeley, Calif. 1910.
- Cohen, Donald A., R. 1, Box 404, Hayward, Calif. 1901.
- *Colburn, A. E., 716 S. Flower St., Los Angeles, Calif. 1905 (1915). [L.]
- Cole, Mrs. Arthur H., 5735 Clover Drive, Oakland, Calif. 1917.
- Cole, F. R., U. S. Entomological Laboratory, 724 Earlham Drive, Whittier, Calif. 1920.
- Cole, John E., 2143 Parkview Ave., Pasadena, Calif. 1929.
- Coman, Edwin T., Jr., 1059 Keith Ave., Berkeley, Calif. 1930.
- Compton, Lawrence V., Museum of Vertebrate Zoology, Berkeley, Calif. 1927.
- *Conover, H. B., 6 Scott St., Chicago, Ill. 1924 (1924). [L.]
- Cook, Mrs. Fannie S., Roosmont Drive, Redlands, Calif. 1931.
- Cook, Frederick W., 1604 E. Harrison St., Seattle, Wash. 1919.
- Cook, Miss Inez, P. O. Box 203, Glendora, Calif. 1924.
- Cooke, Miss May T., 2572 University Place, Washington, D. C. 1918.
- Cookman, Alfred, 438 Baughman, Claremont, Calif. 1912.
- Coombs, Ronald Harrison, 4245 Duquesne Ave., Culver City, Calif. 1927.
- Cooper, James S., 310 Howard Ave., Piedmont, Calif. 1903.
- *Cottam, Clarence, U. S. Biological Survey, Washington, D. C. 1926.
- Coursen, G. Blair, 761 East 69th Place, Chicago, Ill. 1929.
- Cowles, Raymond B., Univ. Calif. at Los Angeles, Los Angeles, Calif. 1928.
- Cozens, Harold H., 1631 Posen Ave., Berkeley, Calif. 1921.
- Crockett, Harry L., 90 Columbus Ave., Phoenix, Ariz. 1924.
- Crum, Miss Ethel, Apt. 311, 2511 Hearst Ave., Berkeley, Calif. 1920.
- Crump, Judge Guy R., 1721 Oak Grove, San Marino, Calif. 1927.
- Culver, George B., Room 170, Admin. Bldg., Stanford University, Calif. 1921.
- Culver, Miss Susan B., 1600 Fernwood Drive, Oakland, Calif. 1914.
- Culver, William L., 2701 Russ Bldg., San Francisco, Calif. 1930.
- Cumming, R. A., 610 E. 64th Ave., Vancouver, B. C., Canada. 1931.
- Currier, Ed. S., 416 E. Chicago St., St. Johns Sta., Portland, Oregon. 1904.

D

- Danby, Durward E., R. 3, Box 502, Santa Cruz, Calif. 1927.
- Danforth, Stuart Taylor, College of Agriculture, Mayaguez, Porto Rico. 1925.
- Davenport, Mrs. Elizabeth B., 46 Western Ave., Brattleboro, Vermont. 1911.
- Davidson, Mrs. M. E. McLellan, Calif. Academy Sciences, San Francisco, Calif. 1919.
- Davis, Dr. Frederick B., 2810 Woolsey St., Berkeley, Calif. 1916.

Davis, Henry W., Seaside Hotel, Atlantic City, N. J. 1922.
 Davis, James Randall, 1915 Marin Ave., Berkeley, Calif. 1931.
 Davis, John M., 227 Clark St., Eureka, Calif. 1908.
 Davis, Minot, 701 North E St., Tacoma, Wash. 1924.
 Davis, W. B., Route 2, Oroville, Calif. 1930.
 Day, Ezra R., 3789 S. 52nd West St., Salt Lake City, Utah. 1932.
 Deane, Ruthven, 1315 Astor St., Chicago, Ill. 1904.
 Dearborn, Dr. Ned, School of Forestry and Conservation, Ann Arbor, Mich. 1909.
 Decker, F. R., Kiona, Wash. 1913.
 DeGroot, Dudley S., Menlo School, Menlo Park, Calif. 1916.
 Delacour, Jean, Chateau de Cleres, Seine Inferieure, France. 1927.
 De Lury, Ralph E., Dominion Observatory, Ottawa, Ontario, Canada. 1926.
 Denny, Judge Thomas C., Sonoma, Calif. 1924.
 Deshler, George Byron, 4428 Grant Ave., Fresno, Calif. 1928.
 Dewell, Henry D., 55 New Montgomery St., San Francisco, Calif. 1930.
 Dexter, B. D., 2519 Ashby Ave., Berkeley, Calif. 1928.
 Dickey, Mrs. Florence V. V., 514 Rosemont Ave., Pasadena, Calif. 1923.
 Dille, F. M., P. O. Box 428, Rapid City, South Dakota. 1903.
 Dixon, James Benjamin, Escondido, Calif. 1924.
 Dixon, Joseph S., 1735 Allston Way, Berkeley, Calif. 1904.
 Dodge, Miss Laura I., 3031 E. 3rd St., Long Beach, Calif. 1915.
 Dodson, Mrs. Leigh M., 3411 W. 15th St., Los Angeles, Calif. 1929.
 Doolittle, E. A., Box 44, Painesville, Ohio. 1918.
 Drengberg, John H., Carrier 329, Eagle Rock, Calif. 1928.
 DuBois, Alexander Dawes, R. 2, Christmas Lake Road, Excelsior, Minn. 1911.
 DuBois, H. M., 294 Poplar, Portland, Oregon. 1931.
 DuMont, Philip A., Museum of Vertebrate Zoology, Berkeley, Calif. 1932.
 Duprey, H. F., R. F. D. No. 6, Box 298, West Ave., Santa Rosa, Calif. 1907.
 Durrant, Ronald B., Terrace, British Columbia, Canada. 1931.
 Dyer, Ernest I., 40 Selborne Drive, Piedmont, Calif. 1931.

E

Easton, Mrs. Jane F., 1525 Torrey Road, La Jolla, Calif. 1920.
 Edge, Mrs. Charles Noel, 113 E. 72nd St., New York, N. Y. 1932.
 Edge, Chester W., R. 3, Box 21, Healdsburg, Calif. 1930.
 Edge, Elton R., San Bernardino Valley Junior College, San Bernardino, Calif. 1932.
 Edmunds, Margaret M., Crockett, Calif. 1929.
 Edson, J. M., 90 Marine Drive, Bellingham, Wash. 1911.
 Edwards, Myrtle S., (Mrs. Harlan), 225 E. 11th St., Claremont, Calif. 1924.
 *Eggleston, J. W., Cuttingsville, Vermont. 1913 (1919). [L.]
 Ehinger, Dr. C. E., 730 Grand Ave., Keokuk, Iowa. 1929.
 Ehmann, E. W., 37 Bellevue Ave., Piedmont, Calif. 1931.
 Eisenman, Roland G., Box 76, Monolith, Calif. 1927.
 Ellis, Mrs. Ella Haines, 910 Grattan St., Los Angeles, Calif. 1922.
 *Ellis, Ralph, 2420 Ridge Road, Berkeley, Calif. 1923 (1926). [L.]
 Emerson, W. Otto, Palm Cottage, Hayward, Calif. 1901 (1921). [L.]
 Emilio, S. Gilbert, 7 Winter St., Salem, Mass. 1926.
 Emlen, John T., Jr., 36 W. School Lane, Germantown, Phila., Pa. 1930.
 Erickson, Frank M., R. D. No. 3, Box 65, Salem, Oregon. 1931.
 Erickson, Mary M., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1930.
 Errington, Paul Lester, Biology Bldg., Univ. Wisconsin, Madison, Wis. 1932.
 Everett, Marie, Randsburg, Calif. 1931.
 Everhart, Mrs. Helen, 927 E. Colorado St., Pasadena, Calif. 1925.
 Evins, Samuel Nesbitt, 188 14th St., N.E., Atlanta, Ga. 1929.

F

Faddis, Miriam S., 1942 Le Moyne St., Los Angeles, Calif. 1931.
 Fancolly, Miss Mary E., Apt. 1, 819 N. 1st Ave., Tucson, Ariz. 1931.
 Fargo, William G., 506 Union St., Jackson, Mich. 1928.
 Farley, F. L., Camrose, Alberta, Canada. 1923.
 Ferguson, Mrs. Aurelia B., 999 Gramercy Drive, Los Angeles, Calif. 1922 (1922). [L.]
 Ferris, Reed W., Beaver, Oregon. 1931.

- Field, Clyde L., 2534 K Ave., National City, Calif. 1919.
- Figgins, J. D., Colo. Museum Nat. Hist., Denver, Colo. 1925.
- Filer, Dr. B. Boynton, 2227 E. Hawthorne St., Tucson, Ariz. 1931.
- Fink, George W., Crows Landing, Calif. 1929.
- Finley, William L., Jennings Lodge, Oregon. 1900.
- Fisher, Miss Edna M., 2410 Fulton St., Berkeley, Calif. 1923.
- Fisher, Miss Elizabeth W., 2222 Spruce St., Philadelphia, Penn. 1910.
- Fisher, Prof. Walter K., Hopkins Marine Sta., Pacific Grove, Calif. 1900.
- Fleming, J. H., 267 Rusholme Road, Toronto 4, Ontario, Canada. 1910.
- Fletcher, Mrs. Howard F., 1172 Laurel St., Berkeley, Calif. 1932.
- Fletcher, L. B., 50 Business St., Boston, Mass. 1922.
- Flynn, Miss Helen, 1094 Keith Ave., Berkeley, Calif. 1920.
- Follett, W. L., 157 Ronada Ave., Piedmont, Calif. 1926.
- Forrest, Earle R., 205 N. Main St., Washington, Penn. 1910.
- Fortiner, John C., Box 526, Vista, Calif. 1910.
- Foulk, Mrs. H. D., 2312 Stuart St., Berkeley, Calif. 1927.
- Fowler, Frederick H., 221 Kingsley Ave., Palo Alto, Calif. 1901.
- Frazer, J. Thomas, Jr., 432 W. Hawthorne St., Eureka, Calif. 1921.
- Frazier, J. F., 724 Proctor Place, Independence, Mo. 1930.
- French, Mrs. A. J., Carlton, Oregon. 1921.
- French, Miss Mena Vestal, Box 171, Wayland, Mass. 1929.
- Frick, G. A., 5922 Tipton Way, Los Angeles, Calif. 1923.
- Friedmann, Dr. Herbert, Div. of Birds, U. S. National Museum, Washington, D. C. 1927.
- Frederick, George W., 3029 Belmont Ave., Chicago, Ill. 1926.
- Frost, Wilfred T., 2136 Grant St., Berkeley, Calif. 1931.
- Fryklund, P. O., Roseau, Minn. 1929.
- G
- Gabrielson, Ira N., 515 P. O. Bldg., Portland, Ore. 1919.
- Gallup, Frederick Norman, Escondido, Calif. 1921.
- Gander, Frank Forrest, P. O. Box 395, East San Diego, Calif. 1927.
- Garber, Miss Lida J., 15 Tanglewood Road, Berkeley, Calif. 1923.
- Gardiner, A. W., 1010 Standard Trust Bldg., Cleveland, Ohio. 1931.
- Gardner, Dr. Leon L., Fitzsimmons Hospital, Denver, Colo. 1911-1916, 1926.
- Garner, H. H., 840 Indian Hill Blvd., Claremont, Calif. 1927.
- Gault, Benj. T., 424 S. Main St., Glen Ellyn, Ill. 1905.
- Gausbeck, A. T., 50 Broadway, New York, N. Y. 1924.
- Gay, Harold S., 200 S. Wilson Ave., Alhambra, Calif. 1901.
- Geiselhart, Miss Josephine, Concord, Calif. 1920.
- Giannini, Charles A., Poland, N. Y. 1919.
- Giddings, Levi A., 772 Yale Ave., Salt Lake City, Utah. 1923.
- Gifford, Dr. Harold, 3860 Harney St., Omaha, Nebraska. 1916.
- Gignoux, Claude, 73 Tunnel Road, Berkeley, Calif. 1919.
- Gilbert, Robert Keech, 101 N. Arden Blvd., Los Angeles, Calif. 1929.
- Gillmeister, Victoria E., 405 Meridian Road, San Jose, Calif. 1930.
- Gilman, M. French, Banning, Calif. 1901.
- Gilmore, Raymond M., Museum of Vertebrate Zoology, Berkeley, Calif. 1926.
- Glassell, Steve A., 9533 Santa Monica Blvd., Beverly Hills, Calif. 1929.
- Goelitz, Walter A., 170 Nunda Blvd., Rochester, N. Y. 1915 (1920). [L.]
- Goldfrank, Arthur, 14349 Emelita St., Van Nuys, Calif. 1930.
- Goldman, Edward A., Biological Survey, Washington, D. C. 1901.
- Gordon, Kenneth L., Dept. Zool., State Agricultural College, Corvallis, Oregon. 1927.
- Grasett, Frank G., 535 Green Bay Road, Glencoe, Ill. 1926.
- Gregory, C. E., Box 215, Morganton, N. C. 1930.
- Gregory, Stephen S., Jr., Box N, Winnetka, Ill. 1924.
- Grey, Henry, R. 2, Box 168, San Diego, Calif. 1901.
- Grimes, Samuel A., 3615 Mayflower St., Jacksonville, Florida. 1924.
- Grinnell, Dr. George Bird, 238 E. 15th St., New York, N. Y. 1914.
- Grinnell, Hilda Wood (Mrs. Joseph), 3016 Benvenue Ave., Berkeley, Calif. 1912 (1921). [L.]
- Grinnell, Prof. Joseph, Museum Vert. Zoology, Univ. Calif., Berkeley, Calif. 1894 (1919). [L.]
- Grinnell, Willard Fordyce, 3016 Benvenue Ave., Berkeley, Calif. 1921.
- Gross, Prof. Alfred O., 11 Boody St., Brunswick, Maine. 1923.

- Gunn, Miss Amy E., 2760 Green St., San Francisco, Calif. 1914.
 Gunthorp, Prof. Horace, Univ. Ariz., Tucson, Arizona. 1920.

H

- Hachisuka, Masauji, care Japanese Embassy, 37 Portsmouth Sq., London, Eng.
 Haefner, Miss Emma, 2510 Bancroft Way, Berkeley, Calif. 1931.
 Hager, Miss Elizabeth, 2322 Observatory Ave., Los Angeles, Calif. 1931.
 Hague, Miss Florence S., Dept. Biol., Sweet Briar College, Sweet Briar, Virginia. 1925.
 Hales, Prof. B. J., Normal School, Brandon, Manitoba, Canada. 1929.
 Haley, Dr. George, 2241 Durant Ave., Berkeley, Calif. 1925.
 Hall, Dr. E. Raymond, Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1924.
 Hall, Mrs. Elmer E., 1501 LeRoy Ave., Berkeley, Calif. 1929.
 Halladay, Daniel S., 628 E. Chestnut Ave., Santa Ana, Calif. 1910.
 Halleck, Taylor H., Newport, Ore. 1923.
 Hallinen, J. E., Cooperton, Kiowa Co., Oklahoma. 1921.
 Hand, Ralph L., 503 Washington Ave., St. Maries, Idaho. 1927.
 Handley, Charles O., Ashland, Virginia. 1927.
 Hann, H. H., 1042 Siskiyou St., Portland, Oregon. 1909.
 Hanna, Dr. G. Dallas, Calif. Academy Sciences, San Francisco, Calif. 1921.
 Hanna, Wilson C., 141 East F St., Colton, Calif. 1902 (1921). [L.]
 Harbison, Miss Julia Esther, Vacaville, Calif. 1928.
 Hargrave, Lyndon L., Museum of Northern Arizona, Flagstaff, Ariz. 1931.
 Harper, Dr. Francis, 206 Dickinson Ave., Swarthmore, Penn. 1920.
 Harris, Mrs. Charles A., R. No. 1, Box 100, Carmel, Calif. 1930.
 Harris, Harry, 5234 Hermosa Ave., Eagle Rock P. O. Sta., Los Angeles, Calif. 1914 (1919). [L.]
 Harrison, Ed. N., Box 324, Encinitas, Calif. 1931.
 Harrison, John W., Box 324, Encinitas, Calif. 1932.
 Hart, Cecil, 132 N. Third St., Montebello, Calif. 1920.
 Hart, Hugh E., Medina, N. Y. 1927.
 Harter, Samuel G., Natural History Museum, Balboa Park, San Diego, Calif. 1927.
 Hartung, Miss Esther Margaret, 124 Mill St., Grass Valley, Calif. 1923.
 Harvey, Miss Annie G., P. O. Box 1195, Fresno, Calif. 1929.
 Harwell, Charles Albert, Park Naturalist, Yosemite, Calif. 1925.
 Hatch, Mrs. Jessie Hoyt, 733 State St., El Centro, Calif. 1928.
 Hathaway, Harry S., Norwood and Thorn Aves., South Auburn, R. I. 1912.
 Hatton, Mrs. Louise M., Box 942, Salinas, Calif. 1931.
 Havemeyer, Henry O., Mahwah, N. J. 1917.
 Haven, Herbert M. W., 500 Forest Avenue, Portland, Maine. 1926.
 Hawkins, Leslie Gilman, 157 Frisbie St., Oakland, Calif. 1930.
 Heath, Prof. Harold, 181 Ocean View Ave., Pacific Grove, Calif. 1919.
 Heermans, Miss Martha, Hayden, Ariz. 1929.
 Heineman, O. J., 14 Bay View, Mill Valley, Calif. 1908.
 Heller, Edmund, Zoological Park, Milwaukee, Wis. 1894.
 Helme, Arthur H., Miller Place, Suffolk Co., N. Y. 1911.
 Henderson, A. D., Belvedere, Alberta, Canada. 1923.
 Henderson, Prof. Junius, Univ. Colorado, Boulder, Colo. 1909.
 Henderson, Walter C., 8 Magnolia Parkway, Chevy Chase, Md. 1918.
 Henne, Christopher, 3rd, 312 Grand Ave., South Pasadena, Calif. 1929.
 Henry, G. M., Colombo Museum, Colombo, Ceylon. 1932.
 Hersey, F. Seymour, Easton, Mass. 1915 (1920). [L.]
 Hesse, Curtis, Dept. Paleontology, Univ. Calif., Berkeley, Calif. 1930.
 Hildebrand, Miss Dorothy B., Kelseyville, Calif. 1931.
 Hill, Mrs. Howard G., 329 Summit Ave., Redlands, Calif. 1924.
 Hill, Mrs. Robert C., Palisades, Rockland Co., New York. 1930.
 Hilton, Dr. W. A., Pomona College, Claremont, Calif. 1921.
 Hinshaw, Thomas Doane, 1908 Scottwood Ave., Ann Arbor, Mich. 1931.
 Hinze, Miss Lucile, 813 S. Adams St., Glendale, Calif. 1929.
 Hoag, Benj., Garfield, N. Y. 1927.
 Hodgkins, Albert E., 347 E. Flora St., Stockton, Calif. 1929.
 Hoerl, Ruth Amy, 1128 S. Stanislaus St., Stockton, Calif. 1931.

- Hoffmann, Ralph, Nat. Hist. Museum, Mission Canyon, Santa Barbara, Calif. 1920 (1928). [L.]
- Holgersen, Miss Violet D., 596 N. Chester St., Pasadena, Calif. 1929.
- Holland, Harold M., Box 515, Galesburg, Ill. 1901 (1920). [L.]
- Holman, F. C., Box 8, Yosemite, Calif. 1914 (1928). [L.]
- Holt, Miss Vesta, State Teachers College, Chico, Calif. 1931.
- Hood, Mrs. Allen R., 5965 Fishburn Ave., Maywood, Calif. 1931.
- Hoover, Prof. Theodore J., Room 531, Engr. Bldg., Stanford University, Calif. 1898 (1916). [L.]
- Hopkins, Cranson H., 920 McKinley Ave., Oakland, Calif. 1930.
- Horn, E. E., 332 Giannini Hall, Univ. Calif., Berkeley, Calif. 1931.
- Horsfall, R. Bruce, 3835 S St., Washington, D. C. 1914.
- Howard, Dr. Hildegarde, 973 N. Normandie Ave., Los Angeles, Calif. 1924.
- Howatt, Dr. G. A., 324 F St., Eureka, Calif. 1925.
- *Howell, Alfred Brazier, Dept. of Anatomy, Johns Hopkins Medical School, Baltimore, Md. 1908 (1915). [L.]
- Howell, Arthur H., 2919 S. Dakota Ave., Washington, D. C. 1916.
- Howitt, Miss Beatrice Fay, 1341 7th Ave., San Francisco, Calif. 1927.
- Howsley, Lucien B., 716 Bankers Bldg., 629 S. Hill St., Los Angeles, Calif. 1931.
- Howsley, Lucien R., 1332 W. 83rd St., Los Angeles, Calif. 1927.
- Huber, Wharton, Academy Natural Sciences, 19th and The Parkway, Philadelphia, Penn. 1915.
- Huey, Laurence M., Natural History Museum, Balboa Park., San Diego, Calif. 1909 (1921). [L.]
- Hughes, George T., Box 153, Plainfield, N. J. 1927.
- Hungate, Prof. J. W., State Normal School, Cheney, Wash. 1924.
- Hunt, Chreswell J., 810 S. 18th Ave., Maywood, Ill. 1919.
- Hunter, Geo., Salinas, Calif. 1930.
- Hunter, J. S., Box 482, San Mateo, Calif. 1903.
- Hurley, John B., 401 S. 17th St., Yakima, Wash. 1921.
- I
- **Ingersoll, Albert M., 908 F St., San Diego, Calif. 1895.
- Isham, C. Bradley, 909 Valley Road, Upper Montclair, N. J. 1909.
- J
- Jackson, Dr. Hartley H. T., Biological Survey, Washington, D. C. 1921.
- Jackson, Ralph W., R. D. 1, Cambridge, Md. 1917.
- Jacobsen, W. C., 1341 43rd St., Sacramento, Calif. 1916.
- Jacot, Edward C., Box 462, Prescott, Ariz. 1923.
- Jaeger, Edmund C., 4462 W. 6th St., Riverside, Calif. 1922.
- Jaques, Francis L., American Museum Nat. Hist., New York, N. Y. 1927.
- Jay, Antonin, 1622 Pennsylvania Ave., Los Angeles, Calif. 1901.
- Jay, William, 5358 Winghocking Terrace, Germantown, Philadelphia, Penn. 1925.
- Jenkins, Elizabeth Shirley, 3759 Grim St., San Diego, Calif. 1929.
- Jenks, Randolph, care L. F. Brady, Flagstaff, Ariz. 1931.
- Jensen, J. P., Box 364, Dassel, Minn. 1927.
- Jerrard, Robert Bruce, Calcite, Colo. 1927.
- Jesurun, Dr. Mortimer, 905 Gaviota Ave., Long Beach, Calif. 1916.
- Jewett, Stanley G., 582 Bidwell Ave., Portland, Ore. 1909.
- Johnson, Dr. Myrtle E., 205 E. 8th St., National City, Calif. 1908.
- Jones, Dr. Lynds, Museum, Oberlin College, Oberlin, Ohio. 1911.
- Jones, S. Paul, 509 West Ave. North, Waukesha, Wis. 1929.
- Jordan, A. H. B., Everett, Wash. 1911.
- Judson, W. B., Room 2, H. W. Hellman Bldg., Los Angeles, Calif. 1894.
- K
- Kaeding, George L., 704 Palm Drive, Glendale, Calif. 1903.
- Kalmbach, Edwin R., Biological Survey, Washington, D. C. 1923.
- Kautz, Miss Bernice, 2804 Stuart St., Berkeley, Calif. 1930.
- Kautz, Miss E. Beryl, 571 Geary St., San Francisco, Calif. 1927.
- Keeler, Mrs. Lauretta B., 901 Laguna Ave., Burlingame, Calif. 1925.
- Kellogg, Miss Louise, The Regillus, 19th and Jackson Sts., Oakland, Calif. 1911 (1927). [L.]
- Kellogg, Miss Mildred, 2232 Piedmont Ave., Berkeley, Calif. 1921.
- Kellogg, Ralph T., Silver City, N. M. 1916.
- Kellogg, Dr. Vernon L., National Research Council, B and 21st St., Washington, D. C. 1901.
- Kelly, Junea W. (Mrs. G. E.), 1311 Grand St., Alameda, Calif. 1918.
- Kelso, Leon, U. S. Biological Survey, Washington, D. C. 1929.

- Kendeigh, Dr. S. Charles, Biology Dept., Western Reserve Univ., Cleveland, Ohio. 1932.
- Kennard, F. H., Dudley Road, Newton Centre, Mass. 1911 (1916). [L.]
- Kennedy, Dr. Clarence H., Zool. Dept., State Univ., Columbus, Ohio. 1912.
- Kennedy, H. N., Garret Park, Maryland. 1925.
- Keyes, Prof. Charles R., 323 Tenth Ave. South, Mt. Vernon, Iowa. 1900.
- Kibbe, Mrs. A. S., 1534 Grove St., Berkeley, Calif. 1917.
- King, Benjamin H., 1215 Lakeshore Drive, Coeur d'Alene, Idaho. 1921.
- King, Miss S. Edith, 820 N. Ave. 65, Los Angeles, Calif. 1926.
- Kirby, Prof. Harold, Jr., Dept. Zoology, Univ. Calif., Berkeley, Calif. 1930.
- Kirk, Ralph G., 342 N. Rockingham Road, Brentwood Heights Sta., Los Angeles, Calif. 1930.
- Kirn, Albert J. B., Box 157, Somerset, Texas. 1918.
- Kitchen, Jim, Lake Henshaw, Santa Ysabel, San Diego County, Calif. 1929.
- Kloss, Phillips, 3420 Webster St., Oakland, Calif. 1929.
- Klotz, Charles D., Box 142, Pearisburg, Virginia. 1930.
- Knapp, Elmer, Route 2, Troy, Penn. 1924.
- Knickerbocker, Chas. K., 410 Michigan Ave., Chicago, Ill. 1905.
- Kofoed, Prof. Chas. A., Dept. Zool., Univ. Calif., Berkeley, Calif. 1909.
- Kretzmann, Prof. Paul E., 801 De Mun Ave., St. Louis, Mo. 1914.
- Kursinski, George J., 1016 Winchester Ave., Alhambra, Calif. 1931.
- Kuser, John Dryden, Bernardsville, N. J. 1912.
- L
- Labarthe, Jules, 21 Plaza Drive, Berkeley, Calif. 1914.
- Laing, Hamilton M., Comox, B. C., Canada. 1926.
- La Jeunesse, H. V., 2933 Lincoln Ave., Alameda, Calif. 1916.
- Lamb, Chester C., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1901.
- Lancashire, Sarah H. (Mrs. J. Henry), 2840 Woodland Drive N.W., Washington, D. C. 1911.
- Landberg, Robert L., Colorado Museum Nat. Hist., City Park, Denver, Colo. 1926.
- Lane, Geo. W., Morgan Hill, Calif. 1914.
- Langevin, Elmer, 325 South Broadway, Crookston, Minn. 1922.
- Langstroth, James H., P. O. Box D, Silver City, New Mexico. 1922.
- Lastreto, C. B., 260 California St., San Francisco, Calif. 1913.
- Lauderbach, Miss Frances, Box 23, Sta. C, Pasadena, Calif. 1927.
- *Law, Mrs. Laura B., Altadena, Calif., 1915 (1920). [L.]
- Lawrence, Alexander G., 104 Sherburn St., Winnipeg, Canada. 1927.
- Leavens, Mrs. Robert French, 1900 Yosemite Road, Berkeley, Calif. 1928.
- LeCallier, Emile, Chateau de la Villette, St. Pierre-les-Elbeuf, France. 1931.
- Leffingwell, Mrs. Anne Maclay, 706 Campus Ave., Pullman, Wash. 1931.
- Lelande, Harry J., 518 Douglas Bldg., Los Angeles, Calif. 1901.
- Leopold, Aldo, 905 University Ave., Madison, Wis. 1916.
- Letl, Frank H., Field Museum Nat. Hist., Chicago, Ill. 1927.
- Lewis, Edward H., Box 192, Avalon, Calif. 1929.
- Lewis, Richard N., Inverness, Marin Co., Calif. 1930.
- Libby, Miss Gretchen L., La Vina Sanitarium, Pasadena, Calif. 1911.
- Light, Prof. S. F., Dept. Zool., Univ. Calif., Berkeley, Calif. 1929.
- Ligon, J. Stokley, Box 928, Carlsbad, New Mexico. 1914.
- Lillie, Harry C., 411 S. Mariposa Ave., Los Angeles, Calif. 1930.
- Lincoln, Frederick C., Biological Survey, Washington, D. C. 1922.
- Lindsey, Mrs. Helena, R. D. No. 4, Box 30, Hayward, Calif. 1931.
- Linsdale, Dr. Jean M., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1926.
- Little, Luther, 1400 Wayne Ave., South Pasadena, Calif. 1913 (1920). [L.]
- Littlejohn, Chase, 240 Fulton St., Redwood City, Calif. 1901.
- Lloyd, Hoyes, 582 Mariposa Ave., Rockcliffe Park, Ottawa, Canada. 1923.
- Locke, Samuel B., Isaak Walton League, 222 North Bank Drive, Chicago, Ill. 1931.
- Lodge, Fred S., 423 South Stone Ave., La Grange, Ill.
- Lofberg, Mrs. Lila McKihley, Edison Camp 62, Big Creek, Calif. 1925.
- Lombardi, Mrs. M. E., 2255 Octavia St., San Francisco, Calif. 1916.
- Loring, J. Alden, U. S. Army, Owego, Tioga Co., N. Y. 1914.
- Lusk, Richard D., R. R. 2, Box 496, San Gabriel, Calif. 1915.
- Lyon, William I., 124 Washington St., Waukegan, Ill. 1928.

Mc

- MacAleer, Miss Mary G., 68 Post St., San Francisco, Calif. 1928.
- McAtee, W. L., Biological Survey, Washington, D. C. 1907.
- McBride, Everett F., 5513 Keniston Ave., Los Angeles, Calif. 1923.
- McCabe, Elinor Bolles (Mrs. T. T.), Museum Vertebrate Zoology, Berkeley, Calif. 1929.
- McCabe, Thomas T., Museum Vertebrate Zoology, Berkeley, Calif. 1926.
- McCoy, Frank J., Santa Maria Inn, Santa Maria, Calif. 1923.
- McCoy, Herbert N., 1226 Westchester Place, Los Angeles, Calif. 1928.
- McCreary, Otto, Agricultural Hall, Univ. Wyo., Laramie, Wyoming. 1928.
- McDonald, Mrs. James R., 2677 Larkin St., San Francisco, Calif. 1927 (1927). [L.]
- McGregor, Richard C., Bureau of Science, Manila, P. I. 1893 (1916). [L.]
- McGuire, Ignatius, 209 Guyot Hall, Princeton Univ., Princeton, N. J. 1929.
- McLain, Donald, 2780 Rose Ave., Altadena, Calif. 1930.
- McLain, Robert B., Box 132, Hollywood, Calif. 1897.
- McLaughlin, Donald, Lassen Union High School, Susanville, Calif. 1930.
- McLean, Donald D., 101 E. James St., San Jose, Calif. 1916.
- McManus, William Reid, Memramcook, New Brunswick, Canada. 1931.
- M
- Mackie, Rev. Augustine C., Vernon, B. C., Canada. 1929.
- Maescher, Miss Ada Belle, 4652 Mascot St., Los Angeles, Calif. 1928.
- Mailliard, Ernest C., Federal Reserve Bank, San Francisco, Calif. 1909.
- Mailliard, John W., 2461 Gough St., San Francisco, Calif. 1894.
- Marburger, Clifford, Denver, Lancaster Co., Penn. 1925.
- Marden, Aaron, Eagle Island, South Harpswell, Maine. 1927.
- Marshall, Dr. Benj. M., 507 F St., Eureka, Calif. 1913.
- Martin, Mrs. Bertha Davis, 1644 Maltman Ave., Los Angeles, Calif. 1920.
- Martin, Early, Jr., 1909 Rio Grande St., Austin, Texas. 1929.
- Martin, Patrick W., Tempe, Cowichan Sta., Vancouver, B. C., Canada. 1931.
- Mason, Herbert L., 2535 Regent St., Berkeley, Calif. 1927.
- Massey, Herbert, Ivy Lea, Burnage, Didsbury, Manchester, England. 1909.
- May, Dr. John B., Div. Ornithology, 136 State House, Boston, Mass. 1929.
- Mead, Mrs. Edwin B., 2618 Etna St., Berkeley, Calif. 1920.
- Meadows, Donald C., Box 845, Avalon, Calif. 1919.
- Meehan, Mrs. Eunice M., Big Creek, Calif. 1928.
- Meredith, George S., Farmers and Merchants Savings Bank, Oakland, Calif. 1927.
- *Mershon, W. B., Saginaw, Mich. 1911 (1919). [L.]
- Metzger, C. J., 6312 S. Ashland Ave., Chicago, Ill. 1926.
- Michael, Chas. W., Yosemite, Calif. 1916.
- Michener, Harold, 418 N. Hudson Ave., Pasadena, Calif. 1924.
- Middleton, R. J., Whitehall Road, Norristown, Penn. 1919.
- Mikesell, Mrs. H. B., 1687 Addison St., Berkeley, Calif. 1925.
- Miller, Dr. Alden Holmes, Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1923.
- Miller, Dr. Loye Holmes, Univ. Calif. at Los Angeles, Los Angeles, Calif. 1905.
- Miller, Mary Mann, 5928 Hayes Ave., Highland Park, Los Angeles, Calif. 1920.
- Miller, Dr. Robert C., Dept. Zool., Univ. Washington, Seattle, Wash. 1921.
- Mills, Miss Laura Ethel, Fallon, Nevada. 1930.
- Mitchell, Dr. Walton I., 1644 Visalia St., Berkeley, Calif. 1909.
- Mix, Mrs. Arthur J., 125 W. 115th St., Los Angeles, Calif. 1922.
- Moffitt, James, 1825 Broadway, San Francisco, Calif. 1917.
- Monk, Harry C., Avoca Apts., Nashville, Tenn. 1925.
- Moore, Miss Nellie, 122 Falcon Ave., Long Beach, Calif. 1915.
- Moore, Robert D., 744 Walnut Ave., Redlands, Calif. 1928.
- Moore, Robert T., R. D. No. 1, Box 28A, Pasadena, Calif. 1911.
- Moran, R. B., 1335 Olive Lane, La Cañada, Calif. 1897.
- More, R. L., Vernon, Texas. 1911.
- Morley, Prof. S. Griswold, 2635 Etna St., Berkeley, Calif. 1916.
- Morrill, Bob, Route 63, Arlington Road, Berkeley, Calif. 1929.
- Morse, De Milt, P. O. Box 217, Morro Bay, Calif. 1929.
- Morse, Frank E., 162 Boylston St., Boston, Mass. 1929.

- Morse, George W., 318 E. 9th St., Tulsa, Okla. 1922.
Mullen, James L., 1264 Logan Ave., Salt Lake City, Utah. 1915.
Munro, J. A., Okanagan Landing, B. C., Canada. 1914.
Murie, Olaus J., Jackson, Wyoming. 1913.
Mushbach, George E., Hotel Bigelow, Ogden, Utah. 1932.
Myers, Mrs. Harriet W., 311 N. Ave. 66, Los Angeles, Calif. 1912.
Myers, Miss Mabel Adelaide, 617 W. Center St., Anaheim, Calif. 1922.

N

- Nace, Chas. A., 156 W. San Fernando St., San Jose, Calif. 1920 (1920). [L.]
Nash, Herman W., Box 264, Pueblo, Colo. 1922.
Naumburg, Mrs. Walter W., Hotel St. Regis, 5th Ave. and 55th St., New York, N. Y. 1922.
Neff, Johnson A., U. S. Biological Survey, Marysville, Calif. 1920.
Neilson, James A., Box 182, Galt, Calif. 1924.
Nelson, Arnold L., U. S. Biological Survey, Washington, D. C. 1932.
Nelson, Mrs. Jean M., 1729 Spruce St., Berkeley, Calif. 1929.
Nelson, Roy A., Livermore, Calif. 1925.
Neterer, Miss Inez May, Lake Erie College, Painesville, Ohio. 1926.
Newcomb, Cyrenius A., Jr., The Junipers, Bloomfield Hills, Route 3, Pontiac, Mich. 1928.
Newhall, Mrs. Chas. S., 2629½ Piedmont Ave., Berkeley, Calif. 1916.
Nice, Mrs. Margaret M., 156 W. Patterson St., Columbus, Ohio. 1921.
Nichols, John T., American Museum Nat. Hist., New York, N. Y. 1909.
Nichols, W. Wallace, 1263 W. 99th St., Los Angeles, Calif. 1932.
Nicholson, Donald J., Box 631, Orlando, Fla. 1911.
Noack, Harry R., 309 Perry St., Oakland, Calif. 1901.
Nokes, Dr. I. D., 1120 Rives-Strong Bldg., Los Angeles, Calif. 1914.
Norrback, Ernest H., 130 Naples St., San Francisco, Calif. 1931.
Norris, Miss Barbara, 433 N. Branciforte St., Santa Cruz, Calif. 1930.
Norton, Arthur H., 22 Elm St., Portland, Maine. 1918.
Nunes, Mrs. R. A., Longvale, Calif. 1921.

O

- Oberholser, Dr. Harry C., 2805 18th St., N.W., Washington, D. C. 1904.

- O'Farrell, Mrs. Mabel E., 2403 F St., San Diego, Calif. 1917.
O'Melveny, Stuart, 1233 Garfield Ave., South Pasadena, Calif. 1931.
O'Neill, Mrs. R. B., 102 E. 13th St., Tucson, Arizona. 1931.
Ormsby, Mrs. Oliver S., 5756 Blackstone Ave., Chicago, Ill. 1925.
O'Roke, Dr. Earle C., School of Forestry, Univ. Mich., Ann Arbor, Michigan, 1929.
Orr, Robert T., 759 31st Ave., San Francisco, Calif. 1931.
Ortez, Mervyn Annis, 2127 Oregon St., Berkeley, Calif. 1932.
Osgood, Dr. Wilfred H., Field Museum Nat. Hist., Chicago, Ill. 1893 (1927). [L.]
Owen, Virgil W., 1352 N. Fuller Ave., Hollywood, Calif. 1896.

P

- Pack, Arthur Newton, 11 Morven St., Princeton, N. J. 1925.
Palamountain, Thomas B., 3011½ N. Broadway, Los Angeles, Calif. 1931.
Palmer, Miss Elizabeth Day, 1741 Harvard Blvd., Los Angeles, Calif. 1909.
Palmer, Dr. R. H., Aptd. 10, Matanzas, Cuba. 1915.
Pangburn, Clifford H., Chappaqua, N. Y. 1920.
Parker, Herbert, South Lancaster, Mass. 1911.
Parmenter, Henry E., 1808 Vallejo St., San Francisco, Calif. 1916.
Paroni, Miss Clelia A., 530 Arlington Ave., Berkeley, Calif. 1921.
Parsons, Mrs. Edward L., 2504 Pacific Ave., San Francisco, Calif. 1929.
Partin, J. L., 2151 Balsam Ave., Los Angeles, Calif. 1930.
Patrick, Dr. Leon, Smith-Grote Bldg., Orange, Calif. 1931.
Patterson, Mrs. Theresa Homet, 544 S. El Molino Ave., Pasadena, Calif. 1926 (1926). [L.]
Paul, Lucius H., 424 Carter St., Rochester, N. Y. 1911.
Payne, Miss Frances, 2110 Santa Clara Ave., Alameda, Calif. 1927.
Peabody, Rev. P. B., 2011 Park Ave., Topeka, Kans. 1904.
Peake, Lionel A. McK., P. O. Box 368, Nanaimo, B. C., Canada. 1930.
Pearse, Theed, Courtenay, B. C., Canada. 1927.
Pearson, Dr. T. Gilbert, 1974 Broadway, New York, N. Y. 1910.
Pease, Charles A., 308 Vassar St., Berkeley, Calif. 1930.

- Peck, Prof. Morton E., 1552 Court St., Salem, Oregon. 1909.
- Pellew, Miss Marion J., Box 455, Aiken, S. C. 1923.
- Pemberton, J. R., 154 North New Hampshire St., Los Angeles, Calif. 1900 (1928). [L.]
- Penrose, Russell C., Grass Valley, Calif. 1930.
- Pennock, Chas. J., Kennett Square, Penn. 1909.
- Penny, W. R., Hotel Carlton, Berkeley, Calif. 1929.
- Perkins, Samuel E., 3rd, 709 Inland Bank Bldg., Indianapolis, Ind. 1926.
- Perley, Mrs. Lyman O., 3420 Lincoln Blvd., Omaha, Nebraska. 1927 (1927). [L.]
- Perry, Mrs. Elinor B., 254 Main St., Hayward, Calif. 1924.
- Peterson, Hans C., Box 396, Reedley, Calif. 1924.
- Pettit, Chas. deForest, 225 Bush St., San Francisco, Calif. 1928.
- Peyton, Laurence, R. D. 2, Fillmore, Calif. 1909 (1922). [L.]
- Peyton, Sidney B., R. D. 2, Fillmore, Calif. 1913 (1922). [L.]
- Phelps, Frank M., 312 Fifth St., Elyria, Ohio. 1912.
- *Philipp, P. B., 220 Broadway, New York, N. Y. 1911 (1920). [L.]
- *Phillips, Dr. John C., Knobfields, Wenham, Mass. 1911.
- Pickard, Miss Edith A., Women's Faculty Club, Univ. Calif., Berkeley, Calif. 1926.
- Pickens, A. L., Dept. Zoology, Univ. Calif., Berkeley, Calif. 1928.
- Pickwell, Dr. Gayle B., State Teachers College, San Jose, Calif. 1928.
- *Pierce, Wright M., Box 343, Claremont, Calif. 1902 (1920). [L.]
- Pike, Eugene R., 2430 Lake View Ave., Chicago, Ill. 1927.
- Pitcher, Mrs. E. C., P. O. Box X, Hayward, Calif. 1920.
- Post, Fred, Salinas, Calif. 1930.
- Post, Miss Pearl E., 463 Glendale Ave., Prescott, Arizona. 1930.
- Potter, Miss Jessica A., 1118 Santee St., Los Angeles, Calif. 1922.
- Potter, Laurence B., Gower Ranch, East-end, Sask., Canada. 1925.
- Pough, Richard H., Alden Park Manor, Germantown, Pa. 1926.
- Powell, Miss Helen, Hotel Durant, Berkeley, Calif. 1914 (1928). [L.]
- Prahl, Carl A., Box 57, Encinitas, Calif. 1931.
- Pratt, Miss Helen S., 2451 Ridge View, Eagle Rock, Calif. 1920.
- Presnall, Clifford C., Box 332, Yosemite, Calif. 1930.
- Preble, Edward A., 3027 Newark St., Washington, D. C. 1926.
- Price, Mrs. Elizabeth H., 2243 College Ave., Berkeley, Calif. 1932.
- Price, John B., 532 Alvarado Rd., Stanford University, Calif. 1926.
- Prill, Dr. A. G., Scio, Ore. 1921.
- Pringle, Miss Cornelia C., 1816 Vallejo St., San Francisco, Calif. 1915 (1921) [L.]
- Pursell, Wm. McLain, 511 Neilson St., Berkeley, Calif. 1926.

Q

- Quattlebaum, W. Dan, 1925 Paloma St., Pasadena, Calif. 1927.
- Quillin, Roy W., 422 West Kings Highway, San Antonio, Texas. 1921.

R

- Randall, Mrs. W. S., 618 E. 15th St., Oklahoma City, Oklahoma. 1929.
- Randolph, Miss Flora A., 2962 Derby St., Berkeley, Calif. 1907.
- Ransom, Webster H., 708 W. 20th Ave., Spokane, Wash. 1921.
- Rathbun, S. F., 1127 Olympic Way, Seattle, Wash. 1904.
- Ray, Milton S., 2901 Broadway, San Francisco, Calif. 1899.
- Record, Miss Gladys E., 44 Fairview Ave., Los Gatos, Calif. 1926.
- Redington, Alfred P., 900 State St., Santa Barbara, Calif. 1932.
- Reid, Mrs. Bruce, Gulf Refinery, Port Arthur, Texas. 1929.
- Reif, Mrs. Vivian, 2033 Hearst Ave., Berkeley, Calif. 1928.
- Reis, C. Oscar, 646 Juanita Ave., Los Angeles, Calif. 1917.
- Rice, Mrs. Rex, care Rice & Co., Douglas, Arizona. 1931.
- Rich, Dr. Guy C., 1820 El Cerrito Place, Hollywood, Calif. 1911.
- Richards, Dr. T. W., U. S. N., 1724 P St., N.W., Washington, D. C. 1908.
- Richardson, Carl, Prospect, Oregon. 1925.
- Richardson, W. D., 4215 Prairie Ave., Chicago, Ill. 1918.
- Richardson, William, care Walter L. Richardson, R. D. 3, Box 322, Porterville, Calif. 1925.
- Richmond, Watts L., 24 Beard Ave., Buffalo, N. Y. 1930.
- Ridgway, John L., 501 Fairmont Ave., Glendale, Calif. 1926.
- Riley, J. H., U. S. National Museum, Washington, D. C. 1909.

- Rinehart, Miss Amy, 540 E. 7th St., Oakland, Calif. 1927.
- Rishel, John B., Barnum School, W. 5th Ave. and Hooker St., Denver, Colo. 1925.
- Ritter, Prof. Wm. E., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1901.
- Roberts, Mrs. D. Lorraine, Claremont Hotel, Berkeley, Calif. 1931.
- Roberts, Dr. Thomas S., Museum Nat. History, Univ. Minnesota, Minneapolis, Minn. 1909.
- * **Robertson, Howard, 157 Wilton Drive, Los Angeles, Calif. 1896 (1926). [L.]
- *Robertson, John McB., Buena Park, Calif. 1913.
- Robertson, Mrs. John McB., Buena Park, Calif. 1920.
- Roe, Mrs. E. D., Pelton Water Wheel Co., 19th and Harrison Sts., San Francisco, Calif. 1919.
- Rose, Frank H., Reservation Warden, Moiese, Montana. 1927.
- Ross, Roland C., 1820 Bushnell Ave., South Pasadena, Calif. 1920.
- Rowan, Prof. William, Dept. Zool., Univ. Alberta, Edmonton, Alta., Canada. 1921.
- Rowen, Daniel, Berkeley Inn, Berkeley, Calif. 1925.
- Rowley, John Stuart, Calif. Acad. Sciences, San Francisco, Calif. 1928.
- Rush, Miss Lora G., 1607 Walnut St., Berkeley, Calif. 1920.
- Rushforth, Mrs. A. W., 118 The Uplands, Berkeley, Calif. 1932.
- Russell, Ward C., Museum Vertebrate Zoology, Berkeley, Calif. 1930.
- Rust, Henry J., Box 683, Coeur d'Alene, Idaho. 1911.
- Ryan, William K., 1661 Crescent Place, N.W., Washington, D. C. 1932.
- S
- Salt, Walter R., Rosebud, Alberta, Canada. 1931.
- Sampson, Walter B., 1005 N. San Joaquin St., Stockton, Calif. 1894.
- Sampson, W. F., 215 Market St., San Francisco, Calif. 1926 (1928). [L.]
- Sandberg, Clarence H., care Miss G. M. Sandberg, White Horse, Calif. 1930.
- Sanford, Dr. Leonard C., 347 Temple St., New Haven, Conn. 1915.
- Sanford, Louis A., 6518 Moore Drive, Los Angeles, Calif. 1931.
- Saunders, Aretas A., 48 Longview Ave., Fairfield, Conn. 1909.
- Saunders, Mrs. E. J., 122 N. Friends Ave., Whittier, Calif. 1925.
- Saunders, W. E., London, Ont., Canada. 1910.
- Schaefer, Oscar F., 724 Woodbine Ave., Rochester, N. Y. 1917.
- Schenck, Sara M. (Mrs. W. Egbert), Twenty-nine Palms, Calif. 1924.
- Schneider, Fred A., care Warren Dried Fruit Co., San Jose, Calif. 1901.
- Schneider, Mrs. G. H., 4618 Kingswell Ave., Los Angeles, Calif. 1921.
- *Schneider, J. J., 103 St. Joseph Ave., Long Beach, Calif. 1899.
- Schorger, A. W., 168 N. Prospect Ave., Madison, Wis. 1928.
- Schulthess, Miss Pauline, Kelseyville, Calif. 1930.
- Schwartz, Wm., 681 Spruce St., Oakland, Calif. 1930.
- **Sefton, J. W., Jr., 638 F St., San Diego, Calif. 1923.
- Sharp, Clarence S., Escondido, Calif. 1902.
- Shaw, Dr. W. T., 1002 Cambridge Ave., Fresno, Calif. 1911.
- Shearer, Dr. A. R., Mont Belvieu, Chambers Co., Texas. 1928.
- Sheffer, W. J., 4731 Angeles Vista Blvd., Los Angeles, Calif. 1930.
- Shepherd, Mrs. Hattie E., Route 1, Box 78, Redlands, Calif. 1921.
- *Sherman, Miss Althea R., Route 2, National, via McGregor, Iowa. 1911 (1916). [L.]
- Sherwood, Jack, Box 264, Salinas, Calif. 1923.
- Shiras, George, 3d, Stoneleigh Court, Washington, D. C. 1914.
- Shoemaker, Clifton B., P. O. Box 14, Glendora, Calif. 1930.
- Shuey, Mrs. Ethel W., 12763 Kling St., North Hollywood, Calif. 1929.
- Silliman, Edmund N., 36 Oak St., Salinas, Calif. 1918.
- Silliman, O. P., 225 West Alisal St., Salinas, Calif. 1893.
- Silverstone, Dr. Dave, 2643 Glendale Blvd., Los Angeles, Calif. 1929.
- Simpson, Gene M., 744 N. 11 St., Corvallis, Ore. 1930.
- Skillen, Donald R., 317 S. 46th St., Philadelphia, Pa. 1927.
- Skinner, E. H., Montrose, Calif. 1927.
- Skinner, M. P., 5840 John Ave., Long Beach, Calif. 1915 (1920). [L.]
- Sloanaker, Jos. L., 1117 Maxwell Ave., Spokane, Washington. 1910.
- Slocum, John Jermain, Thatcher School, Ojai, Calif. 1932.
- Smiley, Daniel, Jr., Mohonk Lake, N. Y. 1931.
- Smith, Allyn G., 722 Santa Barbara Road, Berkeley, Calif. 1909.
- Smith, Austin P., Apartado 412, San Jose, Costa Rica. 1907.

- Smith, Chas. Piper, 354 S. 10th St., San Jose, Calif. 1923.
- Smith, Clarence F., 3145 Octavia St., San Francisco, Calif. 1928.
- Smith, C. R., 563 42nd Ave., San Francisco, Calif. 1917.
- Smith, Miss Emily, Route 1, Box 93, Los Gatos, Calif. 1924.
- Smith, Horace G., 2918 Lafayette St., Denver, Colo. 1914.
- Smith, Miss Josephine E., 51 Canyon Road, Berkeley, Calif. 1928.
- Smith, Loris Philbrick, U. S. S. New Mexico, Box 17, Philadelphia Navy Yard, Philadelphia, Pa. 1930.
- Smith, Napier, 153 Westminster Ave., N., Montreal West, Quebec, Canada. 1919.
- Snell, Charles H., Box 101, Red Deer, Alberta, Canada. 1926.
- Snyder, C. L., Fort Bayard, New Mexico. 1930.
- Snyder, Prof. J. O., 542 Alvarado Ave., Stanford University, Calif. 1900.
- Snyder, L. L., Royal Ontario Museum of Zoology, Toronto, Ont., Canada. 1924.
- Spaulding, Prof. M. Herrick, State Agricultural College, Bozeman, Mont. 1918.
- Sprot, George D., Cobble Hill, Vancouver Island, B. C., Canada. 1925.
- Stansell, S. S., 703 North St., Taft, Calif. 1925.
- Stedman, Miss Clara M., 3871 Howe St., Oakland, Calif. 1929.
- Steele, Ed. S., P. O. Box 261, Las Cruces, New Mexico. 1926.
- Steinbeck, Wm. P., 611 Bristol Ave., Stockton, Calif. 1897.
- Stephens, Prof. T. C., Morningside College, Sioux City, Iowa. 1914.
- Stevens, Laurence, 918 E. Haley St., Santa Barbara, Calif. 1930.
- Stevenson, James, 4213 Dundee Drive, Los Angeles, Calif. 1928.
- Stewart, Paul A., Leetonia, Ohio. 1920.
- Stoddard, H. L., Sherwood Plantation, Thomasville, Ga. 1914.
- Stone, Harry Herbert, Jr., P. O. Box 101, Sturbridge, Mass. 1925.
- Stone, Dr. Witmer, Academy Nat. Sciences, Logan Circle, Philadelphia, Penn. 1924.
- Stoner, Emerson A., Box 444, Benicia, Calif. 1918.
- Storer, Prof. Tracy I., University Farm, Davis, Calif. 1910.
- Strabala, Lony B., Leetonia, Ohio. 1930.
- Streator, Clark P., 16 Mason St., Santa Cruz, Calif. 1919.
- Strecker, John Kern, Baylor Univ., Waco, Texas. 1928.
- *Strong, Wm. A., 41 Grand Ave., San Jose, Calif. 1912 (1920). [L.]
- Stuart, George H., 3rd, Broughton Lane, Villa Nova, Penn. 1913.
- Suffel, Shumway, 1015 S. Oak Knoll Ave., Pasadena, Calif. 1926.
- Sugden, J. W., 47 S. 8th W. St., Salt Lake City, Utah. 1915.
- Sumner, E. L., Jr., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1924.
- Sumner, E. L., 1652 Euclid Ave., Berkeley, Calif. 1930.
- Sumner, Miss Margaret, Kenwood Hall, 6367 Wilshire Blvd., Los Angeles, Calif. 1931.
- Sutton, Dr. George M., Pebble Hearths, Bethany, West Virginia. 1924.
- Swanson, Gustav, 3305 47th Ave. S., Minneapolis, Minn. 1928.
- *Swarth, Harry S., 2800 Prince St., Berkeley, Calif. 1897 (1923). [L.]
- Swasey, Miss Alice J., 2626 Benvenue Ave., Berkeley, Calif. 1930.
- Swenk, Prof. Myron H., 1410 N. 37th St., Lincoln, Nebraska. 1916.

T

- Tait, Eric, Summerland, B. C., Canada. 1928.
- Tanner, Prof. V. M., Brigham Young Univ., Provo, Utah. 1919.
- Taverner, P. A., National Museum, Ottawa, Ont., Canada. 1909.
- Taylor, Grace M., 3904 Cerrito Ave., Oakland, Calif. 1932.
- Taylor, Mrs. H. J., 900 Santa Barbara Road, Berkeley, Calif. 1920.
- Taylor, Jesse H., 2385 Hill Drive, Los Angeles, Calif. 1919.
- Taylor, Dr. Lewis Walter, Poultry Division, Univ. Calif., Berkeley, Calif. 1931.
- Taylor, Robert, 4033 Coolidge Ave., Oakland, Calif. 1930.
- Taylor, Dr. Walter P., Biol. Surv. Field Office, Univ. Ariz., Tucson, Arizona. 1905.
- Teachenor, Dix, 1020 W. 61st St., Kansas City, Missouri. 1922.
- Terrill, L. McL., 24 Prince St., St. Lambert, Quebec, Canada. 1911.
- Test, Dr. Louis A., 511 Russell St., West Lafayette, Ind. 1930.
- *Thayer, John E., Box 98, Lancaster, Mass. 1906 (1914). [L.]
- Thomas, E. J., 1343 Wright St., Los Angeles, Calif. 1929.
- Thomas, George C., 3rd., 519 N. Beverly Drive, Beverly Hills, Calif. 1922.

- Thomas, Gerald B., Jr., 1454 W. 53rd St., Los Angeles, Calif. 1929.
- Thompson, Ben H., 213 Hilgard Hall, Univ. Calif., Berkeley, Calif. 1931.
- Thompson, J. Walcott, 527 E. 1st St. St., Salt Lake City, Utah. 1918.
- Thomson, Miss Isabel A., 5939 Shafter Ave., Oakland, Calif. 1918.
- Thorne, Mrs. Wm. V. S., 810 5th Ave., New York, N. Y. 1927 (1928). [L.]
- Thornthwaite, Mrs. A. B., care Royal Canadian Mounted Police, Old Crow, Yukon Terr., via Fort Yukon, Alaska. 1931.
- Thorpe, William H., Imperial Institute of Entomology, Farnham Royal, Bucks, England. 1928.
- Tindall, Charles W., 912 N. Noland St., Independence, Missouri. 1920.
- Todd, W. E. Clyde, Carnegie Museum, Pittsburgh, Penn. 1909.
- Tonkin, George, Biological Survey, 211 P. O. Bldg., Berkeley, Calif. 1920.
- Torrey, Frederic C., 1 Canyon Road, Berkeley, Calif. 1922.
- *Townsend, Dr. Charles W., Ipswich, Mass. 1925.
- Trapier, Paul E., 1423 S. Highland Ave., Los Angeles, Calif. 1926.
- Treganza, A. O., Lemon Grove, San Diego Co., Calif. 1907.
- Trempe, Alfred D., 612 Kimball St., Sault Ste. Marie, Mich. 1929.
- Trescot, E. B., R. D. 4, Box 357, Petaluma, Calif. 1915.
- Trost, Henry, 475 29th St., San Francisco, Calif. 1924.
- Trumbull, J. H., 39 Farmington Ave., Plainville, Conn. 1911.
- Tucker, Mrs. Carll, 733 Park Ave., New York, N. Y. 1927 (1931). [L.]
- Tucker, Nion R., 111 Sutter St., San Francisco, Calif. 1929.
- Turnbull, James Douglas, 2065 48th Ave. W., Vancouver, B. C., Canada. 1923.
- Twining, Mrs. Frances S., 740 Morgan Bldg., Portland, Oregon. 1927.
- Tyler, John G., P. O. Box 173, Fresno, Calif. 1905 (1920). [L.]
- Tyler, Dr. Winsor M., 112 Pinckney St., Boston, Mass. 1914.
- U
- Uhler, Francis Morey, Biological Survey, Washington, D. C. 1928.
- Unglish, W. E., Gilroy, Calif. 1910.
- Urner, Charles Anderson, 596 Westminster Ave., Elizabeth, N. J. 1925.
- V
- Van Duyne, Mrs. Ede M., 2237 Parker St., Berkeley, Calif. 1931.
- *Van Rossem, Adriaan J., Calif. Institute Technology, Pasadena, Calif. 1909.
- Van Straaten, H., Bankertloan 13, Velp, (G), Holland. 1918 (1919). [L.]
- Van Tyne, Dr. Josselyn, Museum of Zoology, Ann Arbor, Mich. 1931.
- Van Zandt, Mrs. Susan E., Golf Tract, Box 435, San Rafael, Calif. 1931.
- Verges, Eugene M., 1126 Beacon St., Brookline, Mass. 1931.
- Vignos, Miss Blanche, 915 S. Carondelet St., Los Angeles, Calif. 1926.
- Von Berlepsch, Dr. Freiherr Hans, Seebach, Kreis Langensalza, Thuringen, Germany. 1930.
- Von Bloeker, John, Jr., Los Angeles Museum, Exposition Park, Los Angeles, Calif. 1927.
- Vorhies, Prof. Chas. T., Univ. Arizona, Tucson, Ariz. 1916.
- W
- Wackler, Miss E. Giralda, 3941 Wilda Ave., Oakland, Calif. 1928.
- Walden, Miss Clita L., 761 E. 12th St., Eugene, Oregon. 1931.
- Walker, Alex., Route A, Box 267, Tillamook, Oregon. 1911.
- Walker, Ernest P., 114 Maple Ave., Takoma Park, Washington, D. C. 1910.
- Walker, George R., 12 P. O. Place, Salt Lake City, Utah. 1926.
- Wanzer, James Olin, 5939 Sherwood Dr., Oakland, Calif. 1922.
- Warmer, Charles A., 412 W. 6th St., Los Angeles, Calif. 1920.
- Warren, Edward R., 1511 Wood Ave., Colorado Springs, Colo. 1909.
- Warrington, Henry, Jackson, Calif. 1927.
- Watson, Dr. S. A., Whittier College, Whittier, Calif. 1929.
- Weber, J. A., 151 Grand Ave., Leonia, N. J. 1915.
- Webster, Frederick S., 555 N. Harvard Blvd., Los Angeles, Calif. 1925.
- Wegeforth, Dr. Harry M., Zool. Soc. of San Diego, Balboa Park, San Diego, Calif. 1920.
- Weiser, Chas. S., 105 W. Springettsbury Ave., York, Penn. 1920.
- Wendle, Joseph, Bowron Lake, Barker-ville, B. C., Canada. 1926.
- Werner, Miss Selma, 2085 Sacramento St., San Francisco, Calif. 1925.
- Wetherbee, Mrs. Kenneth, 11 Dallas St., Worcester, Mass. 1931.
- Wetmore, Dr. Alexander, U. S. National Museum, Washington, D. C. 1909 (1927). [L.]
- Weydemeyer, Winton, Fortine, Montana. 1926.

- Weyl, Edward S., 6506 Lincoln Drive, Mt. Airy, Philadelphia, Penn. 1929.
- White, Ed. F. G., 185 Wurtenburg St., Ottawa, Canada.
- White, Francis B., Concord, N. H. 1926.
- Whitney, Clarence W., 433 California St., San Francisco, Calif. 1927.
- Whittle, Charles L., Peterboro, New Hampshire. 1922.
- Widmann, Berthold, 4621 Wesley Ave., Los Angeles, Calif. 1923.
- Widmann, Otto, 5105 Enright Ave., St. Louis, Missouri. 1904.
- Wilder, H. E., Carlotta, Humboldt County, Calif. 1909.
- Wilder, Melvin D., P. O. Box 642, Santa Cruz, Calif. 1923.
- Willard, B. G., 51 Fresh Pond Parkway, Cambridge, Mass. 1910.
- Willett, George, Los Angeles Museum, Exposition Park, Los Angeles, Calif. 1905.
- Williams, Laidlaw O., 8 Greenholm St., Princeton, N. J. 1925.
- Williams, Olive, R. D. No. 2, Puente, Calif. 1932.
- Williams, Robert W., U. S. Biological Survey, Washington, D. C. 1914.
- Wilson, Harold C., Ephraim, Wisconsin. 1927.
- Wilson, Miss Irene M., 247 Stedman Place, Monrovia, Calif. 1929.
- Wilson, W. Warner, Box 128, Davis, Calif. 1929.
- Winson, J. W., Box 642, Sumas, Wash. 1925.
- Wise, Miss Beatrice Maude, Fort Jones, Calif. 1931.
- Wolfe, Capt. L. R., 1819 Pershing Road, Chicago, Ill. 1921.
- Wood, Dr. Casey A., Library, McGill Univ., Montreal, Canada. 1916 (1928). [L.]
- Wood, Dr. Clifford H., Glendora, Calif. 1922.
- Wood, George C., Danville, Calif. 1928.
- Wood, Norman A., Museum Zool., Univ. Michigan, Ann Arbor, Mich. 1916.
- Woodbury, Dr. Angus M., 248 University St., Salt Lake City, Utah. 1930.
- Woods, Dr. Ralph A., 2468 W. Pico St., Los Angeles, Calif. 1931.
- Woods, Robert S., Box 356, Azusa, Calif. 1920 (1927). [L.]
- Wright, Curtis, Maplewood Ranch, Calistoga, Calif. 1916 (1922). [L.]
- *Wright, Frank S., 14 Cayuga St., Auburn, N. Y. 1910.
- Wright, George M., Room 213, Hilgard Hall, Univ. Calif., Berkeley, Calif. 1927.
- Wright, William S., Nat. Hist. Museum, Balboa Park, San Diego, Calif. 1924.
- Wythe, Miss Margaret W., Museum Vertebrate Zoology, Univ. Calif., Berkeley, Calif. 1912.

Y - Z

- Yoder, Wm. H., Jr., 859 Granite St., Philadelphia, Pa. 1926.
- Yost, Mrs. Myrtle K., 2831 N. Broadway, Los Angeles, Calif. 1923.
- Youngworth, William, 3119 E. 2nd St., Sioux City, Iowa. 1930.
- Zahn, Otto J., 2115 Estrella Ave., Los Angeles, Calif. 1896.
- Zech, Miss Lillian, 535 W. Highland Ave., Redlands, Calif. 1916.
- Zerlang, Lawrence, 524 W. Hawthorne St., Eureka, Calif. 1918.



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